

# Croplife

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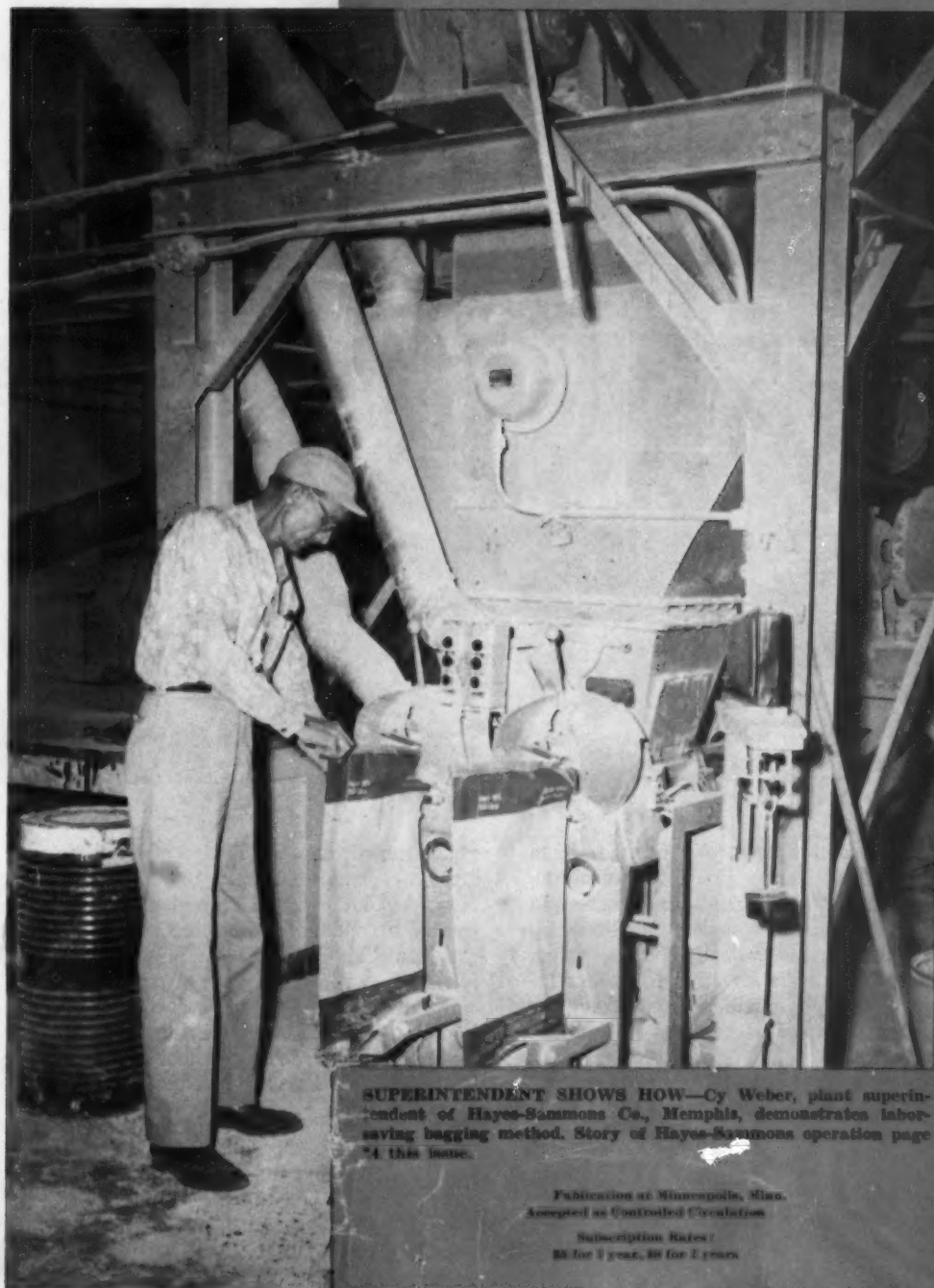
## PRODUCTION

EDITION

for Manufacturers of Chemicals for Agriculture

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**SUPERINTENDENT SHOWS HOW**—Cy Weber, plant superintendent of Hayes-Sammons Co., Memphis, demonstrates labor-saving bagging method. Story of Hayes-Sammons operation page 24 this issue.

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# Detailed Job Training a MUST for Efficiency

By John E. Smith  
Spencer Chemical Co.  
Kansas City, Mo.

## PART 2

**L**AST MONTH'S Production Edition presented a number of tips for training employees in the safe conduct of their jobs working on the drag line, unloading tank cars, operating the ammoniator, the granulator, and unloading boxcars.

This article concludes the series with additional safety and efficiency tips for the plant supervisor to check off.

Mr. Smith presented these instruc-

tions at the recent series of regional safety schools.

### Sewing Machine Operator

**STEPS**—1. Sewing machine should be securely fastened to the floor.

2. Floor should be smooth, non-slippery, and clear of obstructions.

3. There should be sufficient lighting, with no glare.

4. There should be enough space around machine so operator can work comfortably without crowding.

**HAZARDS** — Fingers, hands, or arms becoming entangled in machin-

ery from wearing loose-fitting or ragged clothing.

2. Danger from electric shock from improperly grounded motor frames.

3. Danger of injury to operator from not enclosing pulleys and machine drive belts.

4. Conveyor drive should also be fully enclosed.

5. Danger of mashed foot or toes from not wearing safety shoes.

**SAFETY INSTRUCTION** — 1. Guards must be in place and in good condition before operating machine.

2. Never wear loose or ragged

clothing near moving machinery or open belt when operating a sewing machine. Clothing should be snug fitting and shirts should have short sleeves.

3. Shut power off machine before threading needle.

4. Machine shall be completely stopped for repairs or cleanup.

5. Clutch should be properly adjusted at all times for accurate start and stop.

6. Make sure proper illumination is available.

7. Be sure electrical equipment is properly grounded before beginning operations.

### Take-Off Man (Removes Bags from Conveyor)

**STEPS**—1. Conveyor should be securely fastened to the floor.

2. Floor should be smooth, non-slippery and kept clear of broken bags and other obstructions.

3. There should be sufficient lighting with no glare.

4. There should be enough room around the conveyor so the take off man can work safely and comfortably without crowding.

**KEY POINTS—HAZARDS**—1. Becoming entangled in moving machinery from wearing loose or ragged clothing.

2. Danger of electric shock from improperly grounded motor frames.

3. Starting switch should be so located that the operator has an unobstructed view of the entire conveyor.

4. Conveyor drive should be fully enclosed.

5. Wearing of safety shoes recommended.

**SAFETY INSTRUCTIONS** — 1. Keep work area clear of broken bags, trash or other obstructions.

2. Stop conveyor if bag hangs, do not attempt to pull it out with conveyor running.

3. Drives are used on take off and these should be well guarded.

4. Never wear loose or ragged clothing around moving conveyors.

5. Conveyor should be completely stopped for repairs or clean-up.

6. Make sure you have enough light.

7. Guards must be in place and in proper working condition before operating conveyor.

### Handling Bagged Materials To and in Cars, Trucks

**STEPS**—1. Check car floor or truck body.

2. Placing gang board.

3. Check work area.

4. Loading bags on hand truck at machine.

5. Handling hand trucks.

6. Entering doors of cars.

7. Stacking in cars and trucks.

**KEY POINTS — HAZARDS** — 1. Hurting feet or straining muscles by hand truck going through weak place.

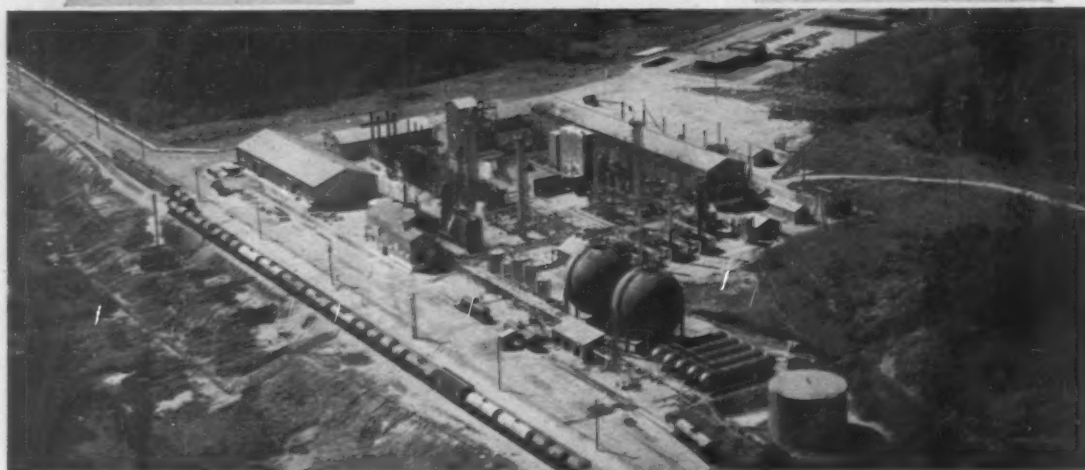
2. Mashing of hands or feet.

3. Injuries from obstacles or from

Turn to **TRAINING** page 35

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Loading Bottlenecks Avoided by  
Recent New Addition of Load-out  
Section for Fertilizers in Bulk

# Efficient Plant Arrangement Is Credited for Economical Output

**A**LTHOUGH the Welcome Agricultural Chemical Co., Welcome, Minn., has made many plant additions since it was started in 1949, the general layout permits great efficiency in production and loading fertilizer out of bag and bulk.

A recent improvement was the erection of a special load-out section for bulk fertilizer at the rear of the plant. Formerly both bag and bulk were loaded out of the same front area. This sometimes created congestion during busy rush days. Bulk as well as bagged fertilizer can still be loaded out at the front of the plant, if need be, but the most of the bulk volume is loaded out at the new easy-to-reach rear area.

According to Cliff Nelson, plant superintendent, about 50% of the firm's business is now in bulk. The company has four large spreaders and hauls within a radius of 75 miles to approximately 70 fertilizer dealers. In the case of bulk loads, the fertilizer is loaded at the Welcome plant and hauled directly to a customer's farm and spread.

**Richard A. Fancher, general manager of the company, states that the best selling fertilizers in this corn and hog area are 5-20-20 and 6-24-12. Other good selling brands include 8-24-12, 6-24-24 and 12-12-12.**

The Welcome Co. was started in

1949 by Larry Beckman, well known in the Middle West fertilizer industry. He was succeeded by A. J. Schuler, in 1952. Mr. Schuler directed the company through many growth-building years, including the expansion of territory and securing of more dealers, much experimental plot work and educational programs. Upon his death in 1958, he was succeeded by Mr. Fancher who had been with the Welcome firm for many years. W. C. Bicknase, a local banker, is president.

Additions to the original plant were made in 1951 and 1952 as business expanded. Then in 1953 a 90 x 134 ft. warehouse for the storage of cured goods was added. In 1958 the rear area bulk load out facilities were completed.

Production and sale of bulk and bag fertilizer have gone as high as 25,000 tons in some years.

The plant operates with from 6 to 15 men, depending upon the seasonal demand for fertilizer. There are 9 large storage bins, each of which will hold 400 tons of ingredients or mixed fertilizer. There are also 15 smaller bins, each holding 125 tons of bulk fertilizer.

Seasonally, these bins are filled with mixed fertilizer of various grades, and then reground and put into bags when the demand is high.

From 1½ to 2 months are allowed for "curing time," reports Mr. Nelson.

Equipment in the plant includes 2 Model H.A. Payloaders, 1 Model Hah Payloader, Worthington mixer, 2 Model 325 St. Regis baggers, a 15 ton Howe scale (rear area). The plant also has ammoniating equipment.

The rear area load-out department for bulk is built with two overhead doors. These can be closed on windy days which reduces the dust hazard.

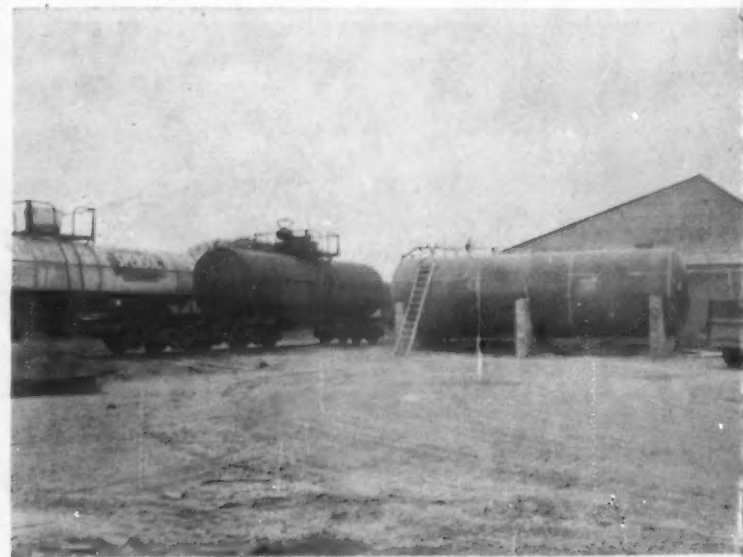
Many safety precautions are observed at the plant, and the company has an excellent safety record. Cliff Nelson does all the dynamiting of stored fertilizer which must be blasted down in chunks for easier loading and subsequent regrinding.

Equipment in the plant has many guards around pulleys and wheels, and this aids in holding down the accident rate. Mr. Nelson watches his men at work and when he sees one of them in a dangerous work situation he always tries to correct the procedure immediately. Such friendly and watchful counsel has helped to make all employees more safety conscious.

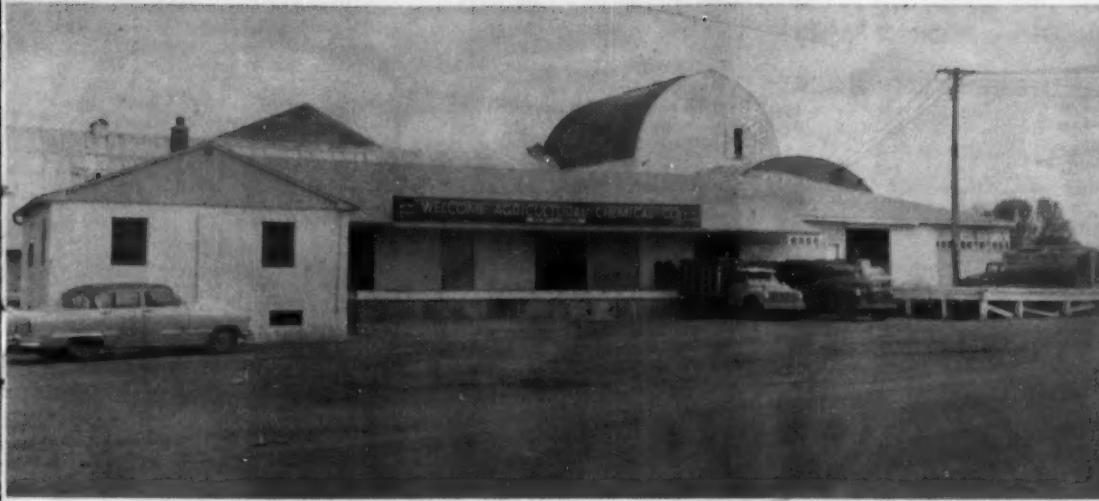
"Safety is something everyone in the plant must work on all the time," states Superintendent Nelson. "Men-



**IN AND AROUND WELCOME PLANT**—At left, Arnold Sandersfeldt, plant employee, operates front-end loader in bulk plant of Welcome Agricultural Chemical Co. Welcome, Minn. Below, left, is scene in packaging operations. Jack McGowan, foreground, takes bags of 8-24-12 off line while Fred Wohlbuter, sitting in background, operates filling machine. Below: liquid fertilizer storage tank and railway supply cars at Welcome operation.







tal alertness in all work conditions contributes toward safety."

The Welcome Agricultural Chemical plant has docks alongside its rail sidings. Mr. Fancher points out that three boxcars can be unloaded at the same time if necessary.

In 1950 the company began to distribute and apply liquid nitrogen. This division of the firm has grown considerably, so that the company now has 30 applicators of its own for use by dealers and customers. All the applicators were made by the Welcome firm's own staff. The applicators work very well, states Mr. Fancher, and incorporate some principles the firm has found through experience facilitate the application of liquid nitrogen.

**The liquid fertilizer applying charge by this company is figured in on the tonnage sold, but it works out to approximately 50¢ an acre charge.**

Mr. Fancher says that the firm also helps to sponsor a "RFD Round-up" radio program three days a week at 7:15 to 7:30 a.m. On this program rural news is broadcast. Sometimes there are emergency items such as school closings because of storms, etc. On other occasions the county agent talks about fertilizer and other farm problems. Or the vocational ag-

riculture teacher may talk about the procedures in his program. Often such county agent talks dwell on the use of fertilizer and the gains obtained from the proper use of it according to soil tests.

Farmers like this radio program, Mr. Fancher states, and it has a sizeable audience. Welcome Agricultural Chemical Co. tries to hold its commercial announcements to a minimum on such a program in order that more rural news may be read to farmers. Quite a few customers say that they listen to the program regularly.

**This fertilizer firm also advertises in most newspapers in the area in which it operates.**

"We are not doing as much experimental work as we did four or five years ago," says Mr. Fancher, "because the results of what we have done are pretty well known by most farmers. We do hold some educational meetings for our dealers, and I think this sort of promotion is well worthwhile, for there are always new things to tell customers about the uses and benefits of proper fertilization. Our firm encourages farmers to test their soils regularly. If customers bring soil samples to us we will send them to the state testing lab at no charge."



**MODERN FERTILIZER FACILITY**—At top of page, exterior view of Welcome Agricultural Chemical Co., Welcome, Minn. At top, right, are Cliff Nelson, plant superintendent, and Richard A. Fancher, general manager of the firm. At right, Loren Borchardt, plant employee, loading bulk fertilizer on a truck out of the front area of the plant. Below, right: workman regulating flow of materials in mixing plant. Below: liquid fertilizer application equipment built and used by the company in its custom work.



## Virginia-Carolina Chemical Corp. States New Plan for Employee Purchase of Stock

RICHMOND, VA. — Virginia-Carolina Chemical Corp. has instituted a new internal stock purchase plan under which the company will give employees one share of common stock for every two they buy themselves.

Under the plan, which went into effect January 1, the company will contribute \$1 for every \$2 invested by an employee, and will guarantee the employee against loss for two years after the stock is purchased.

R. Clifton Long, V-C secretary, said the plan is designed "to encourage employees to share in the ownership of the company and to strengthen employees' financial security."

All of V-C's 3,400 employees who have been with the company 18 months or longer are eligible to par-

ticipate. Union consent is needed before union-represented employees can enroll.

V-C reports widespread acceptance by the 11 unions representing its employees. Some unions have granted their members permission to participate while withholding official union endorsement of the plan.

The plan is voluntary, and employees may invest as much as 10% of their base pay or as little as \$3 a month. Investments will be made by payroll deduction.

The trustee for the plan, the First and Merchants Bank of Richmond, will take each month's investments—both the employee's and the company's—and buy as many shares as possible at the average closing New York Stock Exchange price during

the preceding month. These shares will then be credited to each employee's account.

Virginia-Carolina has employees in 34 fertilizer plants and 23 sales offices across the eastern two-thirds of the nation. In addition, there are 800 employees in Polk County, Fla., where V-C mines phosphate rock. The company also mines rock in Mt. Pleasant, Tenn.; makes multiwall paper bags in Atlanta, Ga.; and phosphorus-related chemicals in Charleston, S.C. and Cincinnati, Ohio.

Under the plan, V-C employees may choose one of two programs: "stock savings" or "stock retirement."

Under stock savings, an employee begins to receive certificates for all stock purchased for his account at the end of the second year following the "plan year" in which he entered the program.

For example, employees who enrolled Jan. 1 would receive their first stock certificates after Dec. 31, 1962. This is because the stock purchased

in 1960 has to be "vested" during 1961 and 1962 under Internal Revenue Service requirements.

Under stock retirement, the employee—after the two-year vesting period—receives only those shares purchased with his own money. Those shares bought for him with company contributions will be held in trust until he retires, dies, or leaves the company.

The company will guarantee the employee against loss during the two-year vesting period. This will be done by outright cash payments to make up any difference between the value of the stock and the employee's contributions.

## Trenton Tunnell Dies, Was Ashcraft-Wilkinson Head

ATLANTA—Trenton Tunnell, 59, president of Ashcraft-Wilkinson Co., died in a hospital here Dec. 31 after an illness of five weeks.

Mr. Tunnell joined the company in 1920 as a salesman and worked his way up through the ranks to the top position. His activities in the fertilizer industry for 40 years made him one of the most knowledgeable men in the field. He was named president of Ashcraft-Wilkinson in July, 1959, at which time he succeeded Van W. Wilkinson who became vice chairman of the board of directors.

Company officials said on Jan. 12 that no successor had yet been appointed for Mr. Tunnell but indicated that an announcement would be made soon.

Mr. Tunnell was a native of Harri-man, Tenn., and attended the University of Tennessee in the school of liberal arts and law.

Ashcraft-Wilkinson is sales agent for Duval Sulphur Co. and Escambia Chemical Co. and in addition operates the Flag Sulphur Co., Tampa, Fla., a wholly-owned subsidiary.

## Buell Engineering Acquires Northern Blower Company

NEW YORK — Buell Engineering Co., Inc., producer of electrical and mechanical dust collecting equipment, has purchased the 49-year-old Northern Blower Co. (Norblo) of Cleveland, Ohio, according to J. A. McBride, president.

Under terms of the acquisition, L. A. Eiben will operate The Northern Blower Division of Buell as a vice president within the framework of the Buell organization. Norblo manufactures bag-type dust collectors and filtering equipment.

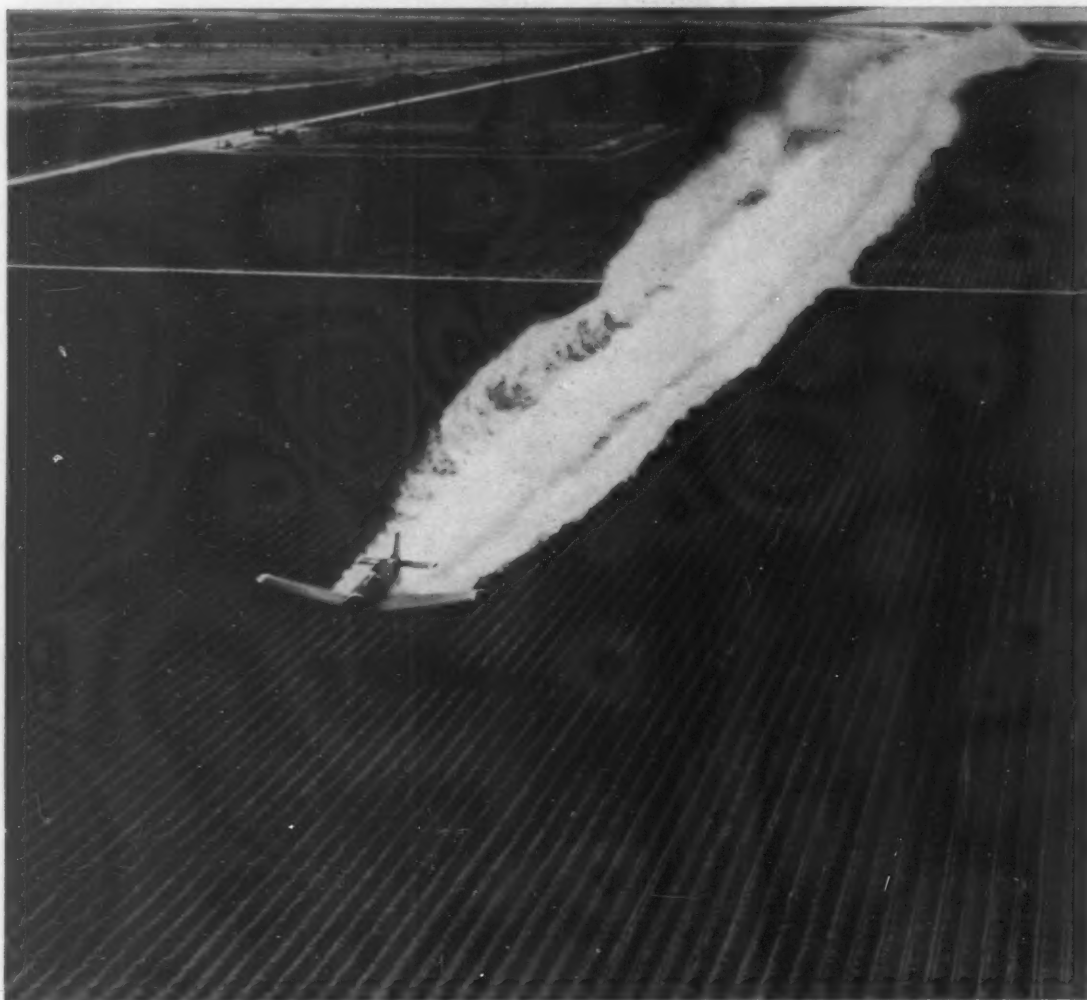
According to Mr. McBride, "Buell will now offer customers a complete range of products and systems to handle every industrial dust or air-pollution problem." The company's line of equipment now includes cyclones, electric precipitators, low-draft loss and bag-type collectors. In addition, Buell will continue to produce centrifugal and gravitational dust classifying systems.

## Georgia Checking Up on Bulk Fertilizer Weights

ATLANTA, GA. — Phil Campbell, Georgia commissioner of agriculture, has announced that his department is now checking weights and making chemical analyses of bulk feed and bulk fertilizer delivered to Georgia farmers.

Mr. Campbell said he ordered the checks because of the increasing use of both feed and fertilizer in bulk form. Heretofore, these two products have been checked mostly in bags. According to the commissioner, all such bulk deliveries must be accompanied by a sales ticket or delivery ticket showing both weight and manufacturer's guarantee as to analysis.

To make the checks, trucks will be stopped and weighed and samples of the load will be obtained for analysis in department laboratories, Mr. Campbell explained.



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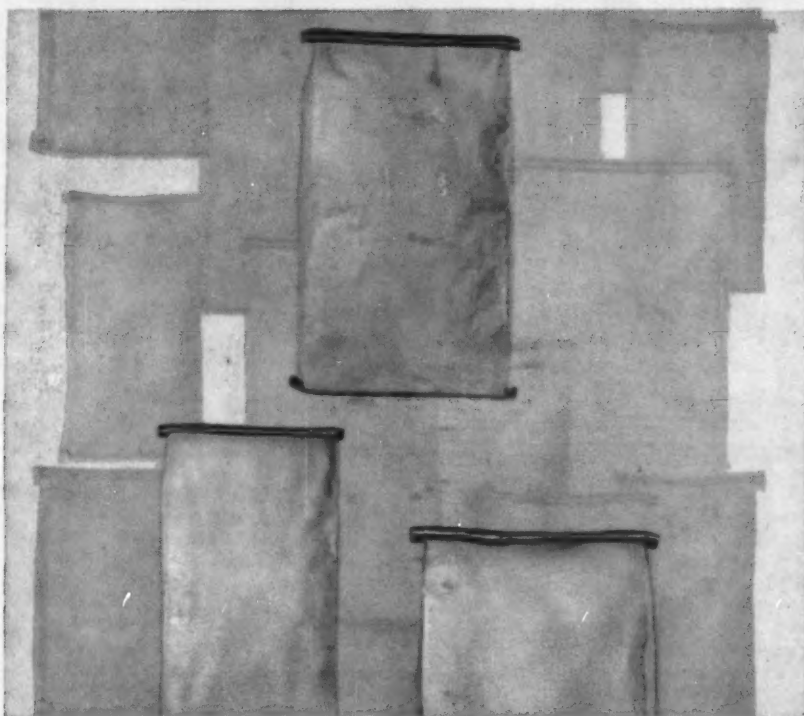


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## Formulating Toxic Pesticides Not a Job For Workmen Careless About Cleanliness

**W**ORKERS in pesticide formulation plants who have demonstrated either an unwillingness or inability to follow every instruction regarding the handling of toxic materials, should be either replaced or put in jobs where observance of rules is not such a critical factor.

Formulators of many pesticidal products know the risk involved when anyone in the plant tends to be careless or indifferent to the toxic properties of materials with which he works day after day.

Every pesticidal chemical has its own properties. Every formulator working with such materials must meet the safety requirements to be assured of a smooth-operating accident-free production program. To outline proper procedures in formu-

lating Phosdrin, an organophosphate, its makers, Shell Chemical Corp., have outlined health and safety measures for formulators which will permit its manufacture without harm. Its outline for formulators follows:

"Phosdrin insecticide is highly toxic to humans but it can be safely made into formulated products provided its handling is accompanied by an awareness of the possible hazards involved. Exposure must be avoided by the use of proper equipment and by strict adherence to the suggested precautions and safety measures for handling Phosdrin insecticide. Organophosphate insecticides cannot be safely processed with sub-standard or poorly operating equipment, or with workers unable or unwilling to follow safety precautions. Outlined be-

low are important health and safety measures which will minimize the hazard of formulating Phosdrin insecticide:

"1. The normal blood cholinesterase level should be determined, by clinical tests, for each worker involved in the formulation of Phosdrin insecticide. The cholinesterase levels of each worker should be checked at regular intervals and at any time that exposure is suspected (to determine whether or not there has been an excessive exposure to the insecticide).

"2. Workers should conscientiously abide by the following personal safety rules:

"(a) Wear clean, properly designed protective clothing and respiratory protection.

"(b) Do not allow clothing to become saturated or grossly contaminated with dust, spray particles, or liquid. Should this happen, remove contaminated clothing at once. Do

not reuse contaminated clothing.

"(c) If liquid or dust comes in contact with the skin, stop work at once and wash thoroughly. Remove contaminated clothing and change to clean clothes.

"(d) Always wash hands and face before eating or smoking.

"(e) At the end of each work day, bathe or take a shower and change to clean clothing.

"(f) Do not wear street clothing under work clothes.

"3. All formulation operations should be done in a separate or well-defined area, away from other operations not involving organophosphorus insecticides.

"4. In the formulating area, a good, positive exhaust ventilating system is required that will move 120 ft. or more of air per minute across the opening of each intake. Intake openings are needed at loaders, blenders, mills, kettles, packaging equipment, and other possible sources of vapor, spray or dust. The ventilating system must exhaust to the outside of the plant, preferably through a stack sufficiently high to prevent hazard to the surrounding area. General room ventilation is helpful but, in itself, is not adequate for the prevention of contamination from the operations.

"5. Equipment (e.g., blenders, mills, packers, etc.) should always be in good operating condition and free from any leakage of dusts or liquids at seams, packing glands, valves, points of closure, flow channels, etc. Any spillage should always be cleaned up immediately and the affected area and equipment should be decontaminated at the first opportunity.

"6. Containers should always be opened, emptied, or filled carefully to avoid billowing of dust or splashing of liquid.

"7. After use, all equipment should be thoroughly washed without splashing. The equipment should be decontaminated by washing with a strong caustic solution (such as lye) and flushing with plenty of water. Used shipping containers must be emptied, thoroughly washed out, and destroyed to prevent reuse. Containers can be destroyed by crushing or puncturing and should be disposed of by burying or dumping in an area where they cannot constitute a hazard.

"8. Plant floors and other areas which may have become contaminated during formulation or storage, should always be washed down at the first opportunity. Such contaminated areas or equipment should never be left unguarded.

"9. Unused and finished materials should be placed in tightly closed, well-marked containers and stored in a cool place, inaccessible to animals or unsuspecting humans (e.g., children). All such containers must be properly labeled.

"10. The working areas and storage areas should be restricted to those persons needed there. Anyone entering such areas should be thoroughly familiar with the above health and safety measures."

### Superintendent Dies

CARLSBAD, N.M.—Luther A. Tillotson, refinery superintendent of the U.S. Potash Co., died in a local hospital after an illness of several months.

Mr. Tillotson joined the local plant as a chemist in 1933 after receiving his B.S. degree in chemistry from the University of Colorado. In 1947 he was promoted to chief chemist, and then became refinery superintendent in 1958.

### DIVIDEND DECLARED

WHITE PLAINS, N.Y.—The board of directors of Reichhold Chemicals, Inc. on Jan. 8, 1960, declared a cash dividend of 15¢ per share on common stock, payable Feb. 15, 1960, to stockholders of record on Jan. 22, 1960.

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## FERTILIZER SURVEY SHOWS OPTIMISM FOR 1960 SALES

### *Industry Leaders Are Enthusiastic*

**Forecasts** by leading fertilizer men around the country indicate a good fertilizer year ahead. Many factors contribute to the general feeling of optimism that 1960 will be a promising year for sales of mixed fertilizers, according to a recent national survey conducted by Nitrogen Division.

The survey, designed to report industry leaders' opinions and help determine the market potential for this year, produced a host of comments which clearly point out that the swing toward increased use of fertilizer continues. Farmers are bringing more and more acreage under fertilization, and at the same time are stepping up application rates. The trend toward use of higher analysis mixed goods also is on the upgrade, fertilizer leaders note.

Progressive, management-minded farmers are finding that good mixed fertilizers with high nitrogen content are indispensable to profitable production of so many crops. This agri-business concept has helped create an awareness among farmers of the real money-making value of intelligent fertilization. It also is receiving widespread support from federal and state agricultural leaders who encourage the use of more fertilizers for better crop growth.

A chief factor which points toward

increased use of fertilizer is the low soil fertility now existing in most farm areas. High yields in 1959 depleted soil fertility, so even though acreages of major crops this year will probably be about the same as last year, it is likely that more fertilizer will be applied.

In 1959, crops were planted on large acreages that formerly were in the soil bank. Soil fertility had been built up. This will not be true this spring, fertilizer experts explain. They emphasize that the plant food removed by harvests will have to be replaced just to maintain yields.

With the outlook for lower prices for many farm products this year, farmers will want to increase crop production to improve income. A large majority of growers will be counting on fertilizer as their best bargain to get this desired production.

Most fertilizer leaders agree, the survey indicated, that 1960 could be a banner sales year—barring unusual weather conditions which might reduce the large fertilizer applications that are expected.

#### **Northeast has High Hopes**

"The picture is really bright in the New England states." This was the commentary of a key fertilizer man who went on to say: "Potatoes are marketing at exceptionally high prices, which will lead

to increased fertilizer application next season. We might have more potato acreage, as well. Dairy farmers are as solid as ever, and should buy fertilizer again this year. Small grains are off, so there will probably be less movement there."

Fertilizer people in Pennsylvania have been concentrating on raising plant food rates for the past two years. They believe their efforts will pay off with bigger fertilizer usage in plow-down on corn land this spring. A sample opinion from the southwest part of the state indicated that fertilizer application might go 10% higher than last year.

Throughout Pennsylvania and New York, dairymen will be better customers for fertilizer than ever before, according to most fertilizer manufacturers. However, cash crop vegetable farmers in these states probably will buy a little less than in 1959. The New Jersey prospect is only fair, industry leaders predict, due to a poor crop year. Long Island potato fertilizer demand should go unchanged, and small package fertilizers look promising in that area.

Generally, higher nitrogen ratios are gaining wider acceptance in the Northeast. There has been a surprisingly heavy demand for new 15-10-10, it was pointed out. This fertilizer chalked up unprece-

*(Continued on following page)*

(Continued from preceding page)

dented sales during its introductory year. Use of 1-1-1 still is increasing, and sales of 2-1-1 also are climbing.

#### Midwestern Demand Excellent

This fast-growing fertilizer market continues to expand. An Iowa fertilizer manufacturer forecasts that his state can look forward to "the biggest spring movement ever, because of excellent yields last year and low fall application." He also cites good moisture conditions in the soil as a favorable factor.

Similar opinions are expressed in Nebraska and Kansas. The industry there believes it will enjoy a large spring demand for mixed fertilizers because of 1959's outstanding yields. Agronomists report there is excellent sub-soil moisture—the best since the fall of 1951. Fertilizer men say there is another noteworthy fact which will have a bearing on sales this spring: wheat farmers in these states are swinging over to higher nitrogen mixed goods at planting time.

A heavy sales season is predicted for Minnesota and Wisconsin. "One big reason," a fertilizer industry spokesman says, "is the extremely poor fertilizer season we had last fall. Early frost and snows prevented field work after harvest."

Both Missouri and Illinois had slow fall movement—the result of heavy fall rains and early cold weather that shortened the wheat planting and fall plow-down seasons. Here again, spring sales are expected to be heavy, industry leaders believe.

An Indiana fertilizer manufacturer says sales in his state should be "every bit as good as last spring, but movement will be late, starting in March." The prospect is even better in Michigan. "We have a combination of a fine crop year—particularly in corn, beets and beans—and low fall deliveries will mean heavy movement this spring," a Michigan fertilizer man states. Movement in Ohio will be greater than last year, and early, if weather permits.

#### Great Fertilizer Response

A number of favorable signs combine to point toward a big fertilizer year in the Midwest, but perhaps one of the most significant is the great response which corn growers have obtained from fertilizers. Performance is really building a fertilizer market in the corn country, according to Midwestern fertilizer people.

Throughout this rich agricultural area, farmers continue to increase both the application rate and nitrogen content of

mixed fertilizers. In Indiana, for example, good success last year will get the 2-1-1 ratio off to a flying start for plow-down, starter and side-dress. Higher analysis and a higher percentage of nitrogen in mixed fertilizers are more popular in Ohio, Illinois and Iowa, manufacturers explain.

The high acreage of the Midwest's total land which will be going into corn creates a large demand for fertilizer. One sales representative sums it up this way: "We think there are plenty of good reasons for all this optimism."

#### Southern Predictions

Southern predictions indicate the average of fertilizer sales for the area will rise above last year's level. Here, as in other areas with large-scale demonstration programs that show benefits of heavy fertilizer use, the increased crop yields which result from these demonstrations help promote greater fertilizer demand.

"Intensified Soil Fertility Programs" sponsored by group effort in several Southeastern states are accomplishing outstanding results. Every farm in a county is soil tested and every farmer is encouraged to fertilize at least one crop according to its needs.

In North Carolina, a fertilizer leader expects sales to go up by about 5%. However, Virginia will probably drop below last year's total. Opinions from Maryland, Alabama and Florida indicate these states can be expected to match their 1959 performances. A Georgia supplier

of mixed goods thinks his market may be off a little because of a poor crop year.

The consensus from Kentucky and Tennessee, however, is that manufacturers will enjoy a 10 to 15% bigger demand for fertilizer over last year. While not seeing so high a rise, experts in the Delta think more fertilizer definitely will be bought this year.

Sales of mixed goods in South Carolina are expected to be similar to last year in total tonnage, with some possibility of earlier movement. Intensified Soil Fertility Programs are making progress in this state, and in Georgia, North Carolina and Alabama. As these programs spread across the country, they are bound to increase tonnage and encourage use of the right analyses.

One Eastern seaboard manufacturer notes a highly-significant trend toward sales of granular and semi-granular mixed goods. Maryland is seeing wider use of high analysis grades like 15-10-10.

#### Prospects for the West

Comments from the West indicate an expected 10 to 15% increase in tonnage this spring for the Rocky Mountain area. Some of the largest crops of sugar beets, corn and small grains ever harvested were registered there in 1959. Growers are being urged by sugar companies and state agricultural colleges to fertilize more heavily in 1960.

Western fertilizer men believe rates of application will continue to increase—about 15 to 20% over last year. They think the future will see more and more fertilizer applied before planting.

In West Texas and New Mexico, industry people say the general outlook is excellent. Bumper crops were produced last year, and farmers generally have funds available for fertilizer. "Last year," one agricultural expert states, "farmers who used generous amounts of fertilizer reaped a large return, and this should lead to even greater sales this year. We also expect an increase in cotton acreage in this area." He goes on to say that more pre-plant fertilization and less side-dressing are predicted for the coming season.

#### Spring Outlook Optimistic

Nitrogen Division's comprehensive survey of opinions and predictions across the country adds up to this: There's a good spring season ahead!

While there are a few areas where some pessimism is voiced, the fertilizer industry as a whole is booming with optimism. It looks like another good year for sales of mixed fertilizers.

**Now is the time to buy  
MIXED FERTILIZERS  
and Arcadian  
AMMONIUM NITRATE  
—an ideal combination for big yields!**

AMMONIUM NITRATE is a highly efficient source of nitrogen for all crops. It is the most concentrated form of nitrogen available and is easily absorbed by plants. It is also a good source of nitrogen for soil conditioning and for the production of high yields. It is the most economical way to obtain the maximum benefit from your fertilizer program.

AMMONIUM NITRATE is a highly efficient source of nitrogen for all crops. It is the most concentrated form of nitrogen available and is easily absorbed by plants. It is also a good source of nitrogen for soil conditioning and for the production of high yields. It is the most economical way to obtain the maximum benefit from your fertilizer program.

Here is one of the many Nitrogen Division full-page farm magazine advertisements, promoting the use of mixed fertilizers.





## YOU NEED MORE THAN SOIL TESTS TO DETERMINE PLANT FOOD NEEDS

*How much plant food should the farmer apply to his fields?* Most farmers and fertilizer dealers are under the impression that a soil test answers this question. It does no such thing! A soil test tells only the amount of plant food that is available in the soil. To determine how much fertilizer to apply we also need to know: *How big a crop does the farmer wish to grow?* If no yield goal is set, then recommendations based on soil tests are usually made for an average yield. Sometimes, results of fertilizer use are disappointing for this reason alone.

It is important to remember that plants are not able to take from the soil all of the plant food which shows up in the soil test. Roots do not touch all soil particles. Corn roots, for example, touch only 5 to 10% of the soil particles in the root zone. Plant foods such as nitrogen, phosphorus, potash and calcium do not mix in soils like sugar in coffee.

Soil scientists have determined that 50% to 75% of the nitrogen applied is picked up by the first crop of corn. Nitrogen is the most mobile and is the most available of the three major plant foods. Phosphorus usually is the least available, and under average conditions, in the year after application, crops may take 20% to 40% of applied phosphorus out of the soil. In some cases, no more than

15% of the material is taken up because of such factors as low pH, improper application or poor weather. Potash applied in fertilizer is more mobile than phosphorus, and is about 50% to 60% efficient in its uptake by the corn plant.

Thus a good plant food prescription plan takes into account the following:

1. Availability of plant food in the soil.
2. Efficiency of fertilizer to be applied.
3. Yield of crop to be produced.

The fertilizer dealer who succeeds builds a reputation for dependability. The prescription plan wins satisfied customers who stay sold on good fertilizer service. These customers produce greater and steadier profits for the fertilizer dealer. Fertilizer dealers, agricultural advisors or farmers—whichever determines how much fertilizer should be applied to a given field—have a solid basis for developing a realistic plant food prescription. Farmers today are willing to spend more time determining the amount of plant food they should use. Gone are the days when growers put on 100 pounds of 2-12-6 to the acre for any crop with the idea that this would surely do the job.

At that time, few persons realized that with 60% efficiency, the 2 pounds or 32 ounces of nitrogen in this combination were really only giving them 20 ounces

of this valuable plant food per acre. And even fewer realized that this 20 ounces of nitrogen was only enough to produce an increased yield of 1 bushel of corn.

Farmers used to plant 16,000 corn plants per acre. By dividing 20 ounces of nitrogen into 16,000 parts, one can see even more dramatically the minute amount of nitrogen that was given to each corn plant. Agriculture has come a long way from the time when 100 pounds of 2-12-6 were popular. Now we find progressive growers applying 150 to 200 pounds of actual nitrogen per acre.

Here is a typical example of how a plant food prescription for a 100-bushel corn crop would be calculated. Suppose a test shows the soil contains 250 pounds of nitrogen, 75 pounds of  $P_2O_5$  and 180 pounds of  $K_2O$  per acre. The amount of food available to plants actually would be 100 pounds of nitrogen, 30 pounds of  $P_2O_5$  and 72 pounds of  $K_2O$ . The farmer would be short about 60 pounds of actual nitrogen, and it can be figured quickly that he would need to add about 100 pounds of nitrogen, 60% of which would give him the 60 pounds required.

Actual  $P_2O_5$  would be short about 30 pounds, and he would have to add about 100 pounds to make up for the inefficiency of this ingredient. The correct amount of  $K_2O$  is a little easier to calculate because it is 50% efficient, so the farmer knows he is short about 50 pounds. He would need to add 100 pounds in order to meet the requirement.

With the addition of the above amounts of each plant food, the farmer now has the requirements of 160 pounds of nitrogen, 60 pounds of  $P_2O_5$  and 125 pounds of  $K_2O$  that will enable him to grow a 100-bushel corn crop.

Since any one year's crop can remove only part of the fertilizer elements in the soil, a considerable amount remains in the ground to feed succeeding crops. Even though a farmer keeps accurate records of fertilizer applications and crop yields on each field, rainfall, soil type, crop rotation and other factors can vary this carryover of fertility in the soil. Accordingly, a soil test every few years helps the farmer keep track of this soil fertility buildup, so that his prescriptions for adding fertilizer will be more accurate. A soil test every year, of course, would give a more exact basis for fertilizer prescriptions.

More than 45 factors affect the yield of a crop, and nitrogen, phosphorus and potash are not the only things for the farmer to consider. But when he does apply the necessary plant food, he is far more likely to get the yield he desires. Good yields usually are planned. As a rule, they just don't happen. Urge your fertilizer dealers to adopt the plant food prescription method when they make fertilizer recommendations. For everyone who has tried it, this realistic sales technique has paid big profits!

# HERE'S THE BIG LINE OF



When you purchase your nitrogen requirements from Nitrogen Division, Allied Chemical, you have many different nitrogen solutions from which to select those best suited to your ammoniation methods and equipment. You are served by America's leading producer of the most complete line of nitrogen products on the market. You get formulation assistance and technical help on manufacturing problems from the Nitrogen Division technical service staff. You benefit from millions of tons of nitrogen experience and the enterprising research that originated and developed nitrogen solutions.

## NITROGEN SOLUTIONS

	CHEMICAL COMPOSITION %					PHYSICAL PROPERTIES			
	Total Nitrogen	Anhydrous Ammonia	Ammonium Nitrate	Urea	Water	Neutralizing Ammonia Per Unit of Total N (lbs.)	Approx. Sp. Grav. at 60°F	Approx. Vap. Press. at 104°F per Sq. In. Gauge	Approx. Temp. at Which Salt Begins to Crystallize °F
<b>NITRANA®</b>									
<b>2</b>	41.0	22.2	65.0	—	12.8	10.8	1.137	10	21
<b>2M</b>	44.0	23.8	69.8	—	6.4	10.8	1.147	18	15
<b>3</b>	41.0	26.3	55.5	—	18.2	12.8	1.079	17	-25
<b>3M</b>	44.0	28.0	60.0	—	12.0	12.7	1.083	25	-36
<b>3MC</b>	47.0	29.7	64.5	—	5.8	12.6	1.089	34	-30
<b>4</b>	37.0	16.6	66.8	—	16.6	8.9	1.184	1	56
<b>4M</b>	41.0	19.0	72.5	—	8.5	9.2	1.194	7	61
<b>6</b>	49.0	34.0	60.0	—	6.0	13.9	1.050	48	-52
<b>7</b>	45.0	25.3	69.2	—	5.5	11.2	1.134	22	1
<b>URANA®</b>									
<b>6C</b>	43.0	20.0	68.0	6.0	6.0	9.3	1.180	12	39
<b>6M</b>	44.0	22.0	66.0	6.0	6.0	10.0	1.158	17	14
<b>10</b>	44.4	24.5	56.0	10.0	9.5	11.0	1.114	22	-15
<b>11</b>	41.0	19.0	58.0	11.0	12.0	9.2	1.162	10	7
<b>12</b>	44.4	26.0	50.0	12.0	12.0	11.7	1.087	25	-7
<b>13</b>	49.0	33.0	45.1	13.0	8.9	13.5	1.033	51	-17
<b>15</b>	44.0	28.0	40.0	15.0	17.0	12.7	1.052	29	1
<b>U-A-S®</b>									
<b>A</b>	45.4	36.8	—	32.5	30.7	16.2	0.932	57	16
<b>B</b>	45.3	30.6	—	43.1	26.3	13.5	0.978	48	46
<b>Anhydrous Ammonia</b>	82.2	99.9	—	—	—	24.3	0.618	211	-108

Other ARCADIAN® Products: URAN® and FERAN® Solutions • Ammonia Liquor • N-dure® A-N-L® • Ammonium Nitrate • UREA 45 • Nitrate of Soda • Sulphate of Ammonia

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## Latest Rulings in Labor Relations

### MUST MANAGEMENT PAY A CHRISTMAS BONUS EVERY YEAR?



#### ARBITRATOR'S DECISION

**NO, UNLESS ESTABLISHED BY CONTRACT, A BONUS IS VOLUNTARY AND MAY BE BASED ON EARNINGS.**  
Based on a 1959 New York Decision

### St. Regis Announces Bag Division Appointments

NEW YORK—St. Regis Paper Co. announces the following appointments in its bag division:

John T. Walton has been appointed manager of marketing services, and is responsible for the planning and administrative functions of the division. Mr. Walton was formerly manager of domestic licensee relations.

Other marketing services appointments include: Donald R. Russell, multiwall product manager; Austin J. Hare, textiles product manager; Lewis H. Merrill, pricing administrator, and Carroll D. McCabe, Jr., marketing measurement administrator.

Alfred A. Roetzer has been named general manager of packaging services for the division. In this position, he is responsible for coordination with the engineering and machine division in the development of new packaging equipment products. Mr. Roetzer was formerly sales manager of packaging equipment.

Other packaging services appointments include: John H. Dively, assistant general manager; Walter D. Wright, Jr., staff engineer, fertilizer packaging; Joseph A. Fioretti, staff engineer, materials handling; Carl W. Olson, staff engineer, sales promotion and training, and Harry D. O'Neal, staff engineer, packer and materials testing.

James Wipper has been named division comptroller, and is responsible for the administration of the financial policy and coordination of

accounting procedures of the division. Mr. Wipper formerly handled manufacturing costs and reports within the comptroller's office.

### 10 States Make Study On Pesticide Residues

BLACKSBURG, VA.—Ten southern states are cooperating on a study of pesticide residues on vegetables and in milk. Recent federal regulations requiring pesticide residue tolerances on agricultural products have focused attention on this problem.

Researchers of the department of biochemistry and nutrition at VPI have obtained persistence data for parathion on alfalfa and collards, malathion on collards and in milk, and sevin on green beans and in milk.

### Atlas Official Retires

WILMINGTON, DEL.—William C. Lytle has retired as vice president at Atlas Powder Co. after a diversified career spanning almost all of the company's history.

Mr. Lytle has the unique distinction of having directed or managed at one time or another each of Atlas' major divisions. He had been handling special assignments for the president since last September.

A native of Leadville, Colo., Mr. Lytle joined Atlas as a chemist shortly after receiving his bachelor's degree from the University of Colorado in 1917—four years after Atlas began operations.

### Spencer Announces Two Advertising Appointments

KANSAS CITY, MO.—The promotion of Herbert A. French to advertising manager, agricultural chemicals, and James W. Murray to advertising production manager, for Spencer Chemical Co., was announced by M. H. Straight, director of advertising.

Mr. French was formerly editor of the company's quarterly magazine, "Today's Fertilizer Dealer." He is a graduate of Missouri University.

Mr. Murray, with Spencer since 1952, is a journalism graduate of the University of Kansas.

### Board Member Elected

WILMINGTON, DEL.—Dr. Robert W. Cairns, director of research for Hercules Powder Co. has been elected a member of the board of directors, announced Albert E. Forster, president and chairman of the board. Dr. Cairns has been director of research since 1955. He began his career with Hercules in 1934 as a research chemist.

Born in 1909, he attended the University of California, Oberlin College, Johns Hopkins University, and Harvard Business School.

### FILE ARTICLES

LA MOURE, N.D.—Articles of incorporation have been filed for La-Moure Chemical & Fertilizer Co. here, listing \$10,000 capitalization and these incorporators: Charles V. Henderson and Robert L. and Janet Nelson, all of LaMoure.

### Delaware Chemical Workers Increase by 100

WILMINGTON, DEL.—Employment in chemical manufacturing in Delaware showed an increase of 100 workers in November. The employment level was estimated at 26,400, compared to 26,300 in October and 26,700 in September, according to the monthly report of the Delaware Unemployment Compensation Commission.

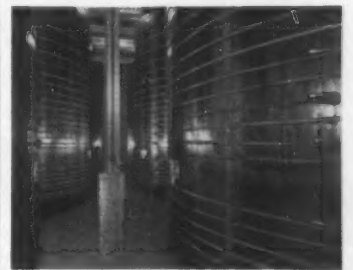
The November employment figure was the same as in the corresponding month of 1958. Average weekly earnings of the production worker increased between October and November from \$124.54 to \$125.55.

A decline was noted in average hourly earnings, \$3.04 in November and \$3.06 in October. A gain was shown in the work week, 41.3 hours in November and 40.7 in October.

## SMART IDEA

For ACID and LIQUID FERTILIZER TANKS

why not check on WENDNAGEL WOOD TANKS Lined and Unlined



## LOOK AT THESE TYPICAL PRICES!

5,000 gallon	\$ 523.00
10,000 gallon	\$1,041.00
15,000 gallon	\$1,452.00

These prices are for Tank-Grade Douglas Fir, f.o.b. Chicago. Prefabricated and ready for you to erect... or ask for immediate prices on complete delivered and erected tanks. All custom fabricated at production prices. Add about 25% for PVC lining in 10,000 gallon tanks, even less for larger sizes.

Used for...

Sulphuric Acid  
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... and many other chemical solutions

WOOD TANKS are suitable for most chemical solutions with a pH between 2 and 11. Polymer liners extend this range from below zero to 14. Polycyl Tanks (Wendnagel Wood Tanks with Polymer Linings) can handle even concentrated solutions of strong acids as well as strong alkaline solutions. Can be furnished closed or open.

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Write Today

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## GIVE YOUR FERTILIZER CUSTOMERS WHAT They WANT

... A GUARANTEED EVEN, ACCURATE SPREAD — FULL WIDTH, NO SKIPS



MODEL  
**R710**  
BULK FERTILIZER  
SPREADER

**SPECIFICATIONS**  
Length — 10 ft.  
Capacity — 225 cu. ft.  
Load — 7 tons  
Width of Spread — 24 ft.  
Rate of Spread — 75 lbs. and up per acre

SPREAD IS CHECKED THE FULL WIDTH BY ACTUAL WEIGHT

The Simonsen spreader is not an adaptation of a lime spreader. It is designed to spread high analysis fertilizers accurately and evenly, down to 75 lbs. per acre. Superb performance results in positive customer satisfaction, and unequalled maintenance-free operation. Leasing plans available.

### GET THE TROUBLE-FREE FEATURES YOU WANT

- Non-Corroding stainless steel at all critical points—apron, metering gate and guides, take-up bolts, drive chains.
- All-weather wheel drive assembly.
- Hydraulic fan drive.
- Outside compartment door hinges.
- Simple adjustment for spreading rate.
- Rubber shock absorbers on hoods.

### WRITE, WIRE OR PHONE COLLECT

for further information about the R710, plus a full line of other Simonsen bulk fertilizer bodies and the new Simonsen Fertilizer (a dual-purpose bulk feed and bulk fertilizer body).

SIMONSEN ALSO MAKES A FULL LINE OF, BULK FEED BODIES, COMBINATION BULK FEED AND SACK BODIES, AND UNLOADERS TO FIT YOUR PRESENT TRUCK BODY.

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## Monsanto Names New Labor Relations Manager

ST. LOUIS, MO.—John R. McClain of St. Louis has been appointed manager of labor relations for Monsanto Chemical Co.'s organic chemicals division, effective Feb. 1.

Mr. McClain presently is a general

manufacturing superintendent for the company's William G. Krummrich Plant at Monsanto, Ill. In his new position, he succeeds Russell L. Miller who was named a technical production manager for the organic division on Jan. 1.

Mr. McClain will devote his full time to labor relations aspects of

the division's manufacturing activity, reporting to the division's director of personnel.

## Agrico Official Dies

NEW YORK—Charles G. Ward, Northeastern division sales manager for the American Agricultural Chemical Co. until his retirement in 1952,

died Dec. 31 at his home in Hingham, Mass. Mr. Ward joined A.A.C. in 1900.

Survivors include his wife, Cornelia A. Ward, and three sons, Steven D., Dudley A. and Charles G., Jr. Steven is a division production superintendent for the A.A.C. Co. in New York.

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## Pasted Valve Bag Cuts Cold Weather Packaging Troubles

**B**AGGING FERTILIZERS and other agricultural chemical products in sub-zero temperatures through the winter months has always presented special problems to manufacturers in the northern half of the country. A pasted-valve bag developed by St. Regis Paper Co. through the cooperation of a number of fertilizer manufacturers is said to have eliminated much of these winter-time woes.

While the bag was being developed, the makers requested the cooperation of fertilizer firms in the northwestern portion of the U.S. where temperatures slide down considerably below the zero mark and frequently stay that way for weeks at a time. The firms used pasted valve bags in the field tests and found them suitable, they report.

A number of companies participated in the tests. Among these was the Northwest Cooperative Mills, with plants at Winona, Minn. and Green Bay, Wis. Working with the bag manufacturer, an automatic "bag chair" and discharge unit was developed for increased efficiency. With this device, the operator places the

bag on the spout of the packer, the bag is filled, the bag chair shifts automatically and the bag is kicked off onto a moving conveyor belt. From that point, bags move to the take-off point where they are stacked on pallets. A fork-lift truck moves them to trucks.

One of the prime movers in this operation is Bill Jones, general manager of Northwest Co-op, who reports that after two years of utilizing this method of bagging in the pasted-valve bag, the idea has won acceptance with the plant's management and with customers.

Northwest was also one of the first to use multiwall bags with a ply of lightweight polyethylene-coated kraft, said to be helpful in cold weather bagging operations. The polyethylene, reports Mr. Jones, permits more flexibility and allows the valve closure to form more easily and more positively.

Below-zero temperatures, of which there have been numerous occasions in large areas of the Upper Midwest and Northwest, are being overcome in fertilizer plants, at least insofar as problems of bagging are concerned.



**COLD WEATHER OPERATIONS**—Use of pasted-valve bag in below-zero temperatures and other severe cold weather conditions has worked out successfully for Northwest Cooperative Mills at the company's plants in Minnesota and Wisconsin. Above, bags are being stacked in key warehouse. Type of bag permits printing on both butt and gusset for maximum display of trade name.



**AUTOMATIC BAG CHAIR**—At left is automatic bag chair and discharge unit used with pasted-valve bag. Bags are automatically filled and kicked off onto a conveyor belt at Northwest Cooperative Mills fertilizer plants.



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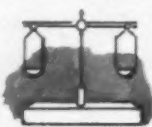
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### Mississippi Group Formed

BILOXI, MISS.—The recent annual meeting of the Mississippi Fertilizer and Agricultural Workers Conference held in Biloxi led to the development of a new organization to be known as the "Mississippi Soil Fertility and Plant Food Council." H. S. Gordon, Jr., was elected the first president and Mike Blouin, Jr., vice president. The already active advisory committee of which Si Corley, commissioner of agriculture, is chairman, will serve as the board of directors.

### To Check on Bulk

ATLANTA, GA.—The Georgia Department of Agriculture will check weights and make chemical analysis of bulk feed and bulk fertilizer delivered to Georgia farmers during the coming year, said Phil Campbell, commissioner of agriculture.

In the past, these two products have been checked mostly in bags, but due to the increasing use of both feed and fertilizer in bulk form, it is felt necessary that the department expand its activities to include this new form of sale and delivery, Mr. Campbell stated.

### Salesman Appointed

JACKSONVILLE, ARK.—Reasor-Hill Corp., manufacturer of weed control chemicals, has announced that James M. Satterwhite, Lubbock, Texas, will be sales representative for the company in the New Mexico and Colorado areas. The new appointee will make his headquarters in Lubbock, Texas, Reasor-Hill stated.



J. W. Satterwhite  
Lubbock, Texas, Reasor-Hill stated.

### Receives Appointment

WILMINGTON, DEL.—Hercules Powder Co. announced that Henry F. Pierce has been appointed assistant sales manager of its naval stores department's agricultural chemicals division. Mr. Pierce has been senior technical representative of the division since October, 1956. The appointment, effective immediately, was announced by Richard T. Yates, director of sales for the company's naval stores department.



## Canadian Fertilizer Production Increases During 1959; Sales Total 1,791,364 Tons

OTTAWA, ONT., CANADA—Sales in Canada of mixed fertilizer and fertilizer materials for direct application to the soil, including exports, amounted to 1,791,364 tons in the year ended June 30, 1959, according to a report by the Dominion Bureau of Statistics of the Industry and Merchandising Division.

Sales to Canadian users totaled 908,214 tons, including 689,553 tons of fertilizer materials and 218,661 tons of mixtures. Sales of materials increased 20.2% and mixtures .1% over the previous year.

Production of fertilizer materials (excluding anhydrous ammonia) in the period under review, including such items as ammonium nitrate, ammonium phosphate, ammonium sulphate, superphosphate and cyanamide, amounted to 1,311,619 tons compared with 1,337,586 tons in the preceding year, and the output of mixed fertilizers increased to 780,501 tons from 736,113 tons manufactured the previous year. The figures for the materials and mixtures are not additive as some of the former were used in making the latter.

Imports of fertilizers (excluding anhydrous ammonia) amounted to 950,999 tons compared with 946,231 tons during the previous fertilizer year. The more important items

which were brought in were natural phosphate rock, 559,823 tons; superphosphate, 149,890 tons; muriate of potash, 149,440 tons; nitrogen solution, 28,441 tons and sulphate of potash, 20,654 tons. The phosphate rock was used, of course, in Canadian fertilizer plants to make superphosphate and ammonium phosphate; similarly, most of the other imported materials were used in making mixed fertilizers.

Exports of materials amounted to 842,792 tons including 15,458 tons of anhydrous ammonia, a 5% decrease from the previous year's total of 885,064 tons which included 10,942 tons of anhydrous ammonia. Exports of mixed fertilizers amounted to 40,358 tons, a decrease of 5.8% over the previous year's total of 42,706 tons.

TABLE 1. Production and Imports of Fertilizers, as Reported by Manufacturers and Importers, During the Years Ended June 30, 1958 and 1959

Item	1958		1959	
	Manufactured	Imported	Manufactured	Imported
		short tons		
Mixed fertilizers—solid .....	722,887	1,272	774,309	1,255
Mixed fertilizers—liquid .....	..	..	..	..
Nitrogen solution .....	..	27,820	..	28,441
Ammonium sulphate .....	335,160	1,484	332,001	5,616
Superphosphate .....	..	167,676	..	149,890
Ammonium nitrate .....	..	..	..	..
Ammonium phosphate .....	..	40	..	39
Cyanamide .....	..	10	..	..
Natural phosphate rock* .....	..	572,000	..	559,823
Bone meal or bone flour .....	378	647	620	487
Muriate of potash, 50% K <sub>2</sub> O .....	..	..	..	..
Muriate of potash, 60% K <sub>2</sub> O .....	..	129,388†	..	149,440†
Sulphate of potash .....	..	17,812†	..	20,654†
Sulphate of potash, magnesite .....	..	3,791†	..	4,257*
Tankage .....	..	345	340	997
Animal manure .....	..	1,765	..	1,750
Dried blood .....	..	..	..	..
Nitrate of soda .....	..	772	..	691
Sewage sludge .....	..	7,355	..	8,980
Other materials‡ .....	1,015,274	14,052	978,654	18,679

\*Not available for publication separately but included with "other materials."

†Used in making superphosphate and ammonium phosphate in Canadian fertilizer plants.

‡As reported in Trade of Canada, Vol. III Imports.

§Lime and anhydrous ammonias not included.

## PROCESS PATENTS

Recently issued by  
U.S. Patent Office

2,916,371

**Temperature Control Process for Making Urea Formaldehyde Fertilizer Compositions.** Patent issued Dec. 8, 1959 to James M. O'Donnell, Woonsocket, R.I. A method for the production of solid urea-form fertilizer compositions from an alkaline liquid mix of urea-formaldehyde wherein the mol ratio of urea:formaldehyde is  $>1$  which comprises acidifying said mix to a pH value of from about 2.0 to 4.0 to catalyze polymerization and immediately introducing said acidified liquid mix onto a continuous elongated moving surface to promote the formation of a urea-formaldehyde polymer layer not greater than about one-half inch thickness, maintaining the temperature of said polymer layer between 40° and 58° C. on said surface during reaction, removing said layer from said moving surface, neutralizing said removed layer, and drying said neutralized layer.

2,916,372

**Production of Phosphate Fertilizers Soluble in Citric Acid.** Patent issued Dec. 8, 1959, to Franz Schytill, Frankfurt, Germany, assignor to Lurgi Gesellschaft für Chemie und Huttenwesen m.b.H., Frankfurt am Main, Germany. In a process for the production of citric acid soluble phosphate fertilizers by calcining raw apatitic phosphate under a steam containing atmosphere at temperatures of at least 1350° C., the steps which comprise admixing 4 to 8% of soda with the raw phosphate and also admixing with such raw phosphate a quantity of silica to provide a silica content between 5 and 15% based on said raw phosphate, granulating the raw phosphate, silica and soda mixture to form granules of a substantially uniform grain size not varying over 1 mm. and shape, the grain size being at least 3 mm. in diameter up to 8 mm. in diameter and calcining the granulated product of uniform grain size and shape under an atmosphere containing steam at temperatures of at least 1350° C.



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surance against wear, maintenance delays, abuse, downtime and the like."

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"Most important of all, the operating capacity of the H-25 is 2,500 lbs.—25% greater than has ever before been available in a tractor-shovel of its size and maneuverability. It is the only loader in its size range with complete power-shift transmission—having 2 speed ranges forward and 2 in reverse. Power steering also is standard.

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maintenance are the exclusive power-transfer differential, wet-sleeve overhead valve engine, 4,500 lbs. of bucket breakout force and 40° bucket tip back at ground level."

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# NEW POTENTIALS

## through the activities of the



**ON FORAGES**—Only a fraction of America's forage crops get any fertilizer at all. Even though more than half the total land area of the United States (about 1 billion acres) is in pasture and grazing lands. Virtually none is fertilized adequately. Even though plant food on pasture pays. On hay, too. Farmers will start using fertilizer only when someone convinces them, proves it will be to their advantage. Potash Institute agronomists are working at it side by side with USDA and college agronomists coast to coast.



**ON FORESTS**—A new field for plant food use. Still in its early stages of development, forest fertilization shows promise of becoming a standard practice, requiring many thousands of tons of plant food. Potash producers have pioneered in the study and development of this new potential. Potash Institute agronomists have traveled at home and abroad gathering firsthand information for the fertilizer industry.



**ON LAWNS**—All over America, suburban developments with new homes and new lawns sprawl cross-country. This is prime fertilizer sales territory! And it's growing. Five Potash producers, through their Institute, are helping translate this growth into plant food sales. A special Institute handbook on lawn fertilization was recently published. Requests for it average over 1,000 a week.



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**ON GRAIN**—A half-realized potential. On the average, even corn receives little more than half the plant food it could profitably use. Small grain, sorghums, soybeans, likewise. More and more farm land is moving into the hands of larger-scale farm operations. They can be sold on higher-level fertilization. Significance? A huge plant food potential, right in the very area already serviced by existing mixing plant and dealer organizations. Potash Institute agronomists coast to coast are helping build this concept of optimum fertilization.

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## TAX TIP . . .

# Astute Figuring and Application Of Machinery Depreciation Law Can Relieve Pain of Federal Tax Bite

**F**ERTILIZER plant managements have a good opportunity to save income tax dollars for 1959. Depreciation deductions can be speeded up if the specific requirements are met and provisions of the depreciation speed-up law are followed through.

Briefly, this revision of the Internal Revenue Code provides an extra 20% deduction during the first year you have an investment in depreciable property. And, you can also take the regular first-year depreciation on the remaining 80% of cost. This special tax saving applies only to the first \$10,000 of investments in depreciable property each year and is increased to \$20,000 in the case of a joint tax return of a husband and wife.

For instance, suppose you invest the maximum (\$10,000) in equipment. You are allowed to deduct \$2,000 or 20% of this from your adjusted gross income. In addition, you take your regular depreciation for the first year on the remaining \$8,000. Using the

declining balance method on a ten-year life of the equipment, you would take regular depreciation of \$1,600 for the first year.

Here is how this illustration works out mathematically for your income tax savings:

Purchase cost of equipment	\$10,000
Special first-year deduction	2,000
Balance to depreciate . . . .	8,000
First-year depreciation with double declining balance method . . . . .	1,600
Balance for future depreciation . . . . .	\$ 6,400

Thus, your total deduction for this \$10,000 investment in improved facilities would be \$3,600 the first year. You would have 36% of your investment back to further expand or modernize the next year. And, you would

have income tax savings on the entire amount of this deduction this year.

## Requirements of Law

To qualify for this extra income tax deduction, you must meet these requirements:

1. Your investment must be in depreciable property.

Anything that is intended for use in a trade or business or held for the production of income that wears out or reaches a point where the original usefulness declines can be depreciated. You can depreciate your plant equipment, delivery equipment, office equipment, etc.

2. It must have been acquired during the current tax year.

This requirement sets the date when the property must have been acquired to qualify. There is no indication in the law that the 20% deduction should be prorated for the portion of the year the property is owned. Thus, equipment purchased anytime during the current tax year would qualify for the full 20% deduction, but depreciation would be calculated on the portion of the year the property was owned.

For instance, equipment is purchased in October. The 20% deduction would be for the full amount. However, the deduction for depreciation would be only one-fourth of the full year's amount.

One point specifically stressed in the depreciation speed-up law is the "purchase" of property. Thus, the property must be purchased in a bonafide way—not a transfer between relatives, for instance. One business with a common ownership could not sell property to another business with the same common owner and qualify for the special deduction.

3. Property must have a useful life of 6 years or more.

This is one point that must be carefully checked to be sure your purchase meets the requirements. "Useful life" is the point that has led to many disagreements in the past between the taxpayer and the Internal Revenue Bureau. As a general rule, this is determined by the useful life of the equipment to the taxpayer—not the normal useful life.

For instance, you buy equipment that has a normal ten-year life. At first glance this would qualify, but if you have been in the habit of replacing this equipment every four years it will not qualify.

4. Both new and used equipment qualify for the special first-year deduction.

One point stressed by Congress in this depreciation speed-up law was the fact that used equipment would qualify. There are, however, two points to keep in mind about whether the equipment is new or used when applying this special deduction the first year.

First, the same six year provision applies to the used equipment as well as the new equipment. For instance, if you buy used equipment with an estimated ten-year useful life when it is five years old, it will not qualify. The useful life to the taxpayer is the important point to remember in applying for this special deduction.

Second, you must keep in mind the special requirements for depreciation that apply to used equipment. To

qualify for the faster depreciation rates of double declining balance method, the equipment must be new. Thus, even though it could qualify for the special 20% first-year deduction, it might be necessary to depreciate the balance on the straight-line or the sum-of-the-digits methods.

5. Election must be made in taxable year and is irrevocable.

When you file your income tax return, you will have made a selection and it becomes irrevocable after that. However, you do have some latitude in making your selection of the equipment you wish to use for the special 20% deduction the first year.

For instance, if your total purchases of equipment this year exceed \$10,000, you can divide this in any way you think is best for your business. The complete \$10,000 can be allocated to one piece of equipment, divided equally between two pieces of equipment, or spread around in any other way you prefer.

## Keep Modern, Save Taxes

You will have tax savings every year you purchase new equipment to keep your business modern. The law sets up these provisions for not just this year, but for every year. And, when you replace your old equipment with modern new equipment, you will have a capital gain at the lower tax rate which will save you more tax dollars.

For instance, assume the purchase of \$10,000 worth of equipment this year. You would have the following deductions for your business:

Cost of equipment . . . . .	\$10,000
First-year deduction of 20% . . . . .	2,000
Balance to be depreciated . . . . .	8,000
Depreciation (declining balance):	
1st year . . . . .	\$1,600
2nd year . . . . .	\$1,280
3rd year . . . . .	\$1,024
4th year . . . . .	\$ 818
	<hr/>
	\$4,722
Book value of equipment	\$3,278

Now if at the end of four years, you sell your old equipment for \$5,000 you would have a long-term capital gain of \$1,722 of which one-half would be subject to income tax.

Even if you do not sell the old equipment for a profit over your book valuation, you will still realize extra benefits by having your working capital back earlier with this new tax revision act.

To realize full value on your tax savings, you should keep these points in mind:

1. Buy either new or used equipment up to \$10,000.
2. If more than \$10,000 is needed for modernization hold back \$10,000 until after the end of the tax year.
3. Be sure the equipment has a useful life of at least six years.

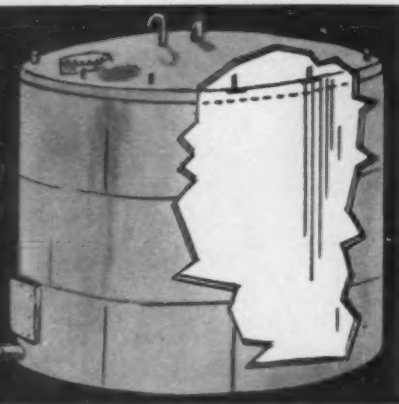
## Chemical Production Workers on Increase

**SAN FRANCISCO**—Employment in chemical manufacturing industries climbed fractionally in California during November, 1959, to an estimated 38,900 wage and salary workers, as compared with 38,700 during the previous month.

In November of 1958 the figure was 37,600, the same as the October level for that year, according to the division of labor research and statistics of the California State Department of Industrial Relations.

Production workers in the agricultural chemicals division earned at the average of \$99.77 per week during November, as compared with \$98.95 in October and \$93.67 the previous November. Average hourly earnings for the three months were \$2.41, \$2.39, and \$2.33 and the estimated average hours per week were 41.4 this November, 41.4 in October, and 40.2 the November before.

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## North Carolina Board Reconsiders Ban on Insecticide-Fertilizer Combination

RALEIGH, N.C.—Fertilizer-pesticide mixtures are once more legal in North Carolina, following action taken by the state's board of agriculture which reversed an earlier decision to outlaw the mixtures. In a recent meeting, the board unanimously authorized producers to mix insecticides in six different types of fertilizers.

The board also authorized the State Agriculture Department, with the aid of State College, to establish machinery governing the mixing.

Last May, the board outlawed the practice after agricultural experts at the college showed concern about problems which arose when fertilizer-insecticide mixing was permitted on an experimental basis.

The change in ruling came after farmers, primarily from Johnston, New Hanover, Hyde, and Haywood counties, told the board that the mixture of fertilizer and insecticide was easier and safer to apply.

Henry Swartz, representing the North Carolina Farm Bulb Growers Assn. and the New Hanover County Farm Bureau, said farmers were "arguing for the method of application and not the use of the chemical itself. We are in direct competition with South Carolina and Virginia which allow mixing, and if we can't keep cost down, we'll be behind the eight-ball."

Mr. Swartz said he was not asking the board to force producers of fertilizer to mix the chemicals into their products but to "allow the farmers to have the privilege if the firm is willing to cooperate."

George Watson, a Rocky Mount farmer, said he had started to use chemicals for the first time four years ago but did not apply insecticide in 1958 and his tobacco crop that year was the "worst I've ever had."

Howard Stephenson, a Johnston County farmer, said wireworms in his tobacco crop several years ago were "so bad I had to plow up more than half of it." By using the fertilizer-insecticide mixture, he said, he was able to control the pests and produce a "perfect crop."

While most of the fertilizer producing firms represented at the hearing favored the farmers' views, Dr. Sam Thornton of the Royster Guano Co., Norfolk, Va., said his firm was not willing to put insecticides in its products. Dr. Thornton said extension services never had approved the mixture and he was "willing to live under the May . . . ruling."

Dr. Clyde Smith of State College said very little was known about the toxic effect on the products sprayed

with chemical insecticides. He said it had not yet been determined what residue remained in the soil from insecticides applied in powder form.

Cited as an advantage in using the mixture was the shorter time of application since both fertilizer and insecticide can be spread on the plot at the same time.

A petition submitted to the board by a group of Henderson County farmers said it was almost impossible to use spraying equipment on some of the hilly land in that area. "We need to have an option on mixing fertilizer and insecticides," the petition said.

Fertilizers approved for mixing with insecticides included: 3-9-9 and 4-8-12 for tobacco; 0-10-20 for peanuts; 2-12-12, 5-10-10, and 6-12-6 for general crops.

## Fertilizer Plant Moves

TIFTON, GA.—The Omega Fertilizer Works is moving its main production factory to Tifton, John D. McLeod, owner, has announced. It is being moved from Omega, which is also in Tift county and located nine miles from Tifton.

New buildings to house the business are being constructed on the old AB&C rail line near the Farmers Gin and Peanut Co. buildings in south Tifton. Plans are under way to make two streets through to the buildings.

## Declares Dividend


SAINT LOUIS, MICH.—The board of directors of Michigan Chemical Corp. at a regular meeting on Dec. 15, declared an annual dividend of 25¢ a share on the outstanding shares of the company's common stock. A similar dividend was declared a year ago. Payment will be made on Dec. 31, 1959, to stockholders of record at the close of business Dec. 24, 1959.

## New Irish Plant

DUBLIN, IRELAND—A new phosphate plant, Shamrock Fertilizers, Ltd., has recently been opened on the North Quay of Wicklow town. Its capacity is listed at 60,000 tons a year, and the management says about 150 men will be employed on a year-round basis. Last year, over 50,000 tons of phosphate were imported into the country, Irish sources say.

## EXPANSION PROGRAM

GERMANTOWN, WIS.—The Organic Compost Corp. here has announced plans for an expansion program that will more than double its annual sales volume. Cost of the program was estimated at \$300,000 or more. Included in the expansion are a recently completed addition to the firm's plant here, which will boost capacity by nearly 50%, and plans for a new plant at Oxford, Pa., about equal to the Germantown unit in size, according to George T. Klein, company president.



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## Fertilizer Courses Planned

TIFTON, GA.—Several of the short courses planned for Abraham Baldwin Agricultural College in Tifton in January and February, 1960, will devote a part of the program to fertilization, and one will be on fertilizer entirely.

A course on "Fertilizer Placement" will be presented on Jan. 21. Fertilization will form a good part of the discussion for the other following courses which have been planned: "Peanuts," Jan. 7; "Tomatoes," Jan. 13; "Sweet Potatoes," Jan. 19; "Farm Pond Management," Feb. 2; "Cotton," Feb. 9; "Watermelons and Cantaloupes," Feb. 11, and "Corn," Feb. 16.

## DELAWARE CORPORATION

DOVER, DEL.—American Liquid Fertilizer Corp. filed a charter of incorporation with the corporation department of the Secretary of State's office here. Authorized capital stock of the firm is \$1,000,000. Corporation Service Co., Delaware Trust Building, Wilmington, Del., is serving as the principal office.



**PESTICIDE PLANT**—Aerial view of the Hayes-Sammons Co. main plant at Mission, Texas, where liquid pesticides and fertilizers are manufactured under the "Mission Brand" label. In addition to main plant, the company

has other production facilities at Indianola, Miss. and at Reynosa, Mexico. The latter location is but a few miles south of the border from the main office and plant in Texas.

#### ALERT MANAGEMENT . . .

## Pesticide Firm Improves Net Profit by Plugging Little Leaks in Cost of Operation

By Ruel McDaniel  
Croplife Special Writer

**L**ARGE VOLUME and gross sales alone do not necessarily guarantee a satisfactorily profitable operation in farm chemicals or in any other industry, reasoned the management of Hayes-Sammons Co., Mission, Texas, manufacturer of

agricultural insecticides and fertilizers.

The owners were in agreement that volume had increased satisfactorily—nearly quadrupling in the 5-year period, 1954-1958, but they were not satisfied with the net profit which

was far out of proportion to the increase in gross production.

So the management decided to learn why, according to Thomas B. Sammons, Jr., president. The "wondering why" led to a plant survey, which unearthed some startling and significant facts.

Profits were going out the door, through waste motion, too much labor over-time, too little attention to so-called "minor" details of plant operation.

After a program of correction had been instituted for about eight months, new figures revealed that:

- Labor costs had been reduced by 30%.
- General operating expenses, within the plant, had been cut by one-third (this included labor) and production volume had gone up slightly.

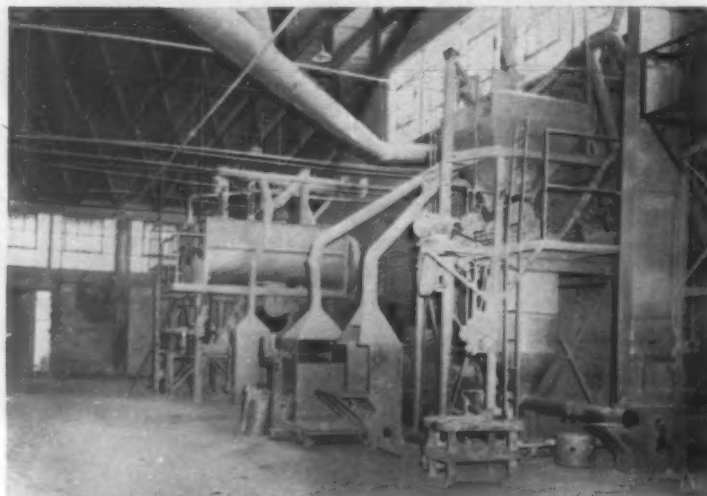
Hayes-Sammons Co. was established 50 years ago as a pioneer brush-country hardware store, by Albert Sammons, Thomas B. Sammons, Sr.,

and Edward Hayes. Ultimately the store started handling fertilizers as a few farms began to be whacked out of the Rio Grande Valley wilderness. By 1920, the company was distributor of paris green, arsenate, sulphur and other basic chemicals. Mixing and formulating for specific customer needs led logically to manufacturing.

Today the company produces liquid and dry fertilizers under one division and agricultural insecticides through another. All are marketed under the "Mission Brand" label and adjacent plants produce both—including a line of chemicals for the oil industry.

It was in the agricultural insecticides division that the major savings in production and handling costs were effected, since this is the largest section of the over-all operation.

The company has an agricultural chemical plant at Indianola, Mississippi, and another at Reynosa, Mexi-



**AT MISSION, TEXAS, PLANT**—Hayes-Sammons Co. has found the use of mechanical material handling devices of great economic value in the manufacture of chemical products for agriculture. At right is example of mechanical loading of bags on truck for delivery. At left is Hayes-Sammons mixing



and bagging plant where large quantities of agricultural pesticides are handled annually. The Hayes-Sammons company was organized a half-century ago as a local store; now the firm sells in 27 foreign countries in addition to extensive operations in the Southwestern states.



co, only a few miles across the Rio Grande from Mission. Besides covering most of the South and Southwest, the company sells in 27 foreign countries, mainly Mexico, Central America and South America.

The company's self-survey covered actual in-plant routine, warehousing, delivery, material-handling and labor over-time.

"It unearthed nothing drastic," explains Mr. Sammons, "but rather, it revealed numerous small factors that contributed to unnecessary production costs."

In the plant, for example, it was found that the way men stood in front of the bagging units and handled the bags onto and from the units was cutting down efficiency. By showing the men how to change standing position, it was possible to increase production from the bagging machines, and thus reduce the cost of labor involved in bagging.

A study of the methods employed to bring materials from railroad cars or trucks into the plant and ultimately to the mixing room revealed several minor operations that could be altered and thereby reduce the cost of material handling. More automatic equipment was added to speed up unloading and handling and thereby reduce labor cost.

A similar study of loading finished production revealed wasted effort, and much of this was eliminated by a more complete use of power forklift trucks and automatic handling.

Warehousing costs were reduced by greater use of forklifts and power conveyors.

"One of our biggest wastes was represented in over-time wages," Mr. Sammons declares. "And by stepping up labor efficiency by 30%, we were able to eliminate nearly all over-time."

By reducing waste motion and forced idleness because of lack of proper coordination of all operations within the plant, the company now is able to produce as much with two workmen as it formerly did with three. The saving in labor, however, came about through elimination of most over-time, rather than in discharge of any employees.

Today, over-time is a serious thing in the Hayes-Sammons plant. The company operates on a 44-hour week, and no over-time may be put in by any man today without the approval of the division manager. He in turn had better have an excellent reason for approving any over-time.

"We found that we were working over-time unnecessarily, because it was so easy simply to have the men work longer when there seemed to be a need for it. The program has eliminated the need for it," Mr. Sammons points out.

Ranking right alongside over-time as an efficiency-destroyer was the company's lack of definite "scheduling" deliveries to wholesale outlets.

"It had reached the point where every delivery was an emergency," Mr. Sammons explains. "When we realized how much this lax delivery program was costing us, we set about on a quick educational program to get deliveries back on a schedule basis. We found that we can get along with our customers—and their customers—just as well by delivering according to a set schedule."

Enlisting the help of the company's contact men, it was possible to show customers that hit-and-miss deliveries were costing the customers, through adding to the company's overhead. By explaining the reason for deliveries by definite schedule and asking for cooperation, the company was able to sell most customers on the necessity of making deliveries by a set schedule. Customers began placing their orders to conform to deliveries in

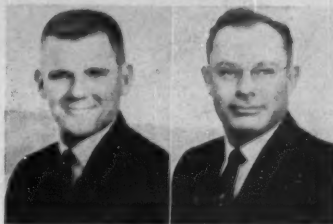
their areas and delivery costs dropped.

"Naturally if a customer's customer really has an emergency, such as a sudden crop infestation and a day's wait may mean heavy loss, we see that the customer gets his insecticides," explains Mr. Sammons. "We have, however, educated customers to distinguish a real emergency from mere negligence in ordering in time to make regular delivery schedule."

The same efficiency study was carried out in the other plants.

"These studies revealed nothing of emergency nature," Mr. Sammons explains, "and we probably would have gone on indefinitely without realizing that small leaks here and there were adding up to a lot of waste. Our experience in this program has impressed us with the fact that often leaks too small to spot in normal operation are the real profit-eaters."

## Nitrogen Division Advances Two Salesmen



James L. Rainey, Jr.

J. P. Mills

NEW YORK—The appointment of James L. Rainey, Jr., as supervisor, Midwest direct application sales for Allied Chemical Corp.'s Nitrogen Division has been announced by Malcolm E. Hunter, division vice president in charge of sales.

Mr. Rainey, formerly district sales supervisor of the division's North Central sales district, has been suc-

ceeded in that position by J. P. Mills. Mr. Mills has been a field technical service representative for Nitrogen Division in the North Central district.

Mr. Rainey joined the company in 1954 as a field sales representative for Nitrogen Division in Ohio. In his new position he will be located at division headquarters in New York City. He is a graduate of Purdue University with a bachelor of science degree in animal husbandry and is a member of the Minnesota Fertilizer Industry Assn.

Mr. Mills will move from La Crosse, Wis., to St. Paul, Minn., to assume his new duties. A native of New York City, Mr. Mills joined the company there in 1950 as a sales trainee.

He holds a bachelor of science degree in general agriculture from Cornell University, and is a member of the Minnesota Fertilizer Industry Assn.

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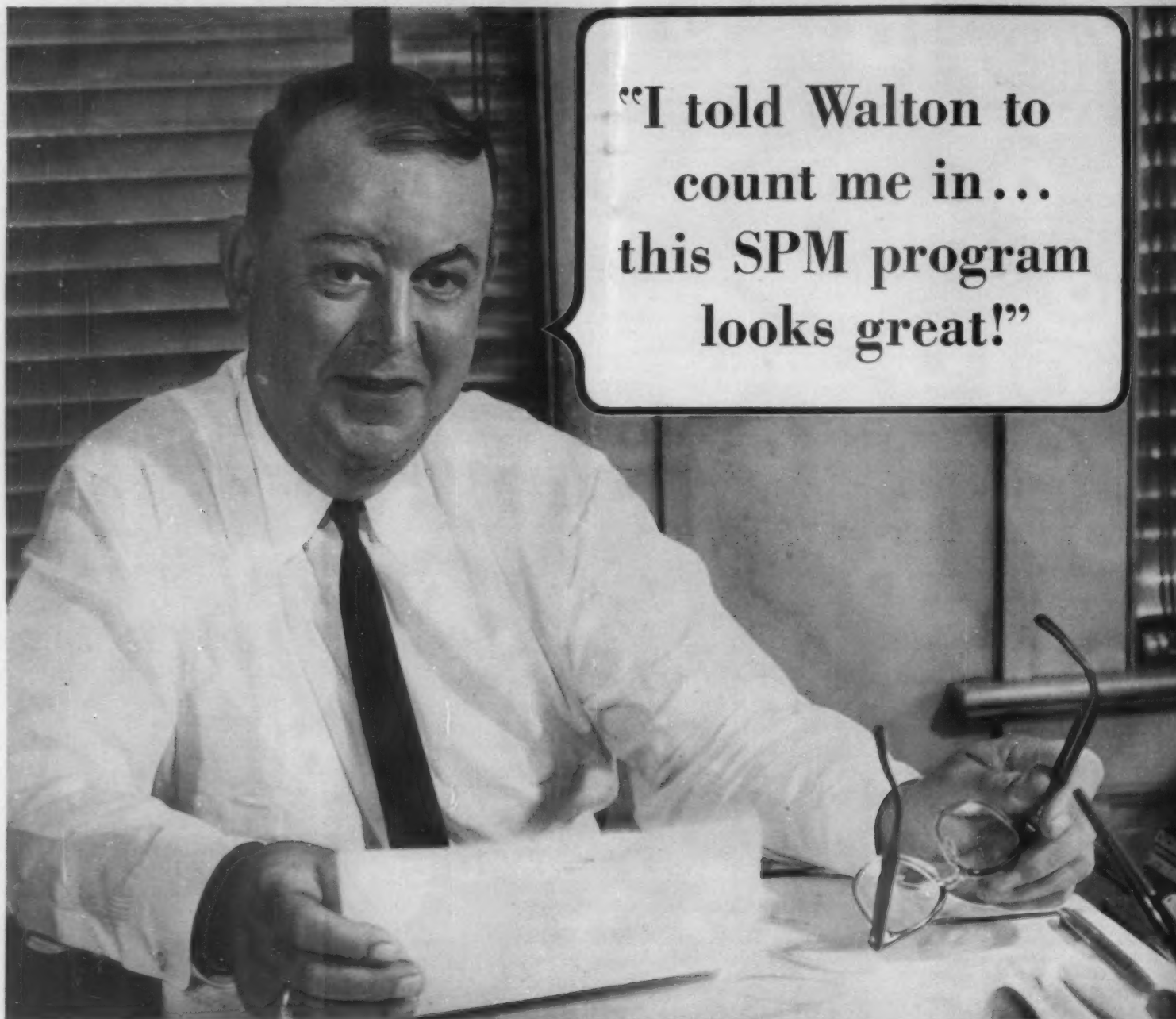
It prevents decay and termite damage to fence posts.

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*Mr. T. F. Bridgers, president of the Farmers' Cotton Oil Company, Wilson, N.C., is an enthusiastic supporter of the Sul-Po-Mag program. On the adjoining page he and vice-president E. R. Bridgers get full details on the 1960 SPM program from IMC district sales manager Walton Dennis.*

## **The Sul-Po-Mag program is designed to boost sales of fertilizers containing Sul-Po-Mag. Get the full story from your IMC representative.**

In many parts of the country, *magnesium* is now recognized as the fourth major plant food element. At the same time, growers consider yearly applications of a mixed fertilizer containing Sul-Po-Mag as the easiest, surest and most economical way to protect against crop losses caused by magnesium-poor soil.

What has caused this growing awareness of the need for magnesium? To a great extent, it's the result of fertilizer manufacturers tying in their local promotion with the SPM program. For several years, International has gone all out in emphasizing the need for magnesium, both to growers and to influence-groups such as county agents, vo-ag teachers, and extension specialists.

*Just what is the SPM program?* It is an educational program designed to acquaint agriculture

with the ever-increasing need for magnesium in our soils. It points out the exclusive advantages of fast-acting, long-lasting Sul-Po-Mag as the best way to guard against magnesium shortage.

You'll benefit from the growing demand for magnesium created by a full schedule of agriculture magazine ads . . . plus the promotional materials you need to complete the job in your local area. You are provided newspaper ad mats, tags, seal imprints, imprinted direct mail pieces and posters . . . all at no cost.

Your SPM advertising materials are directed specifically to the growers in your own area. The materials will discuss the magnesium fertilization problems of the major crops grown in your area.

Get full information on the SPM program through your IMC representative.

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for growth



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Mr. E. R. Bridgers, vice president of the Farmers' Cotton Oil Co., greets Walton Dennis, IMC district sales manager. Let's look in as Mr. Dennis reviews the elements of the 1960 Sul-Po-Mag program.



"Mr. Bridgers, we at IMC consider this booklet a vital part of our Sul-Po-Mag promotion. It illustrates the importance of magnesium for high crop quality and top yields. We've answered requests for thousands of these booklets from all parts of the country."



"With our new series of ad mats, you can bring the full force of the Sul-Po-Mag program right to your selling area through your local paper. These ad mats are keyed to your selling season and to the major crops in your area. They'll move mixed fertilizer containing Sul-Po-Mag."



"This crop package . . . including mailers, leaflets and jumbo post cards . . . gives you maximum selling impact on the local level. These materials discuss the need for Sul-Po-Mag by individual crops . . . and they can be imprinted with your company name and address to make the promotion really yours."



"Here's something else we're doing. IMC sends out this Sulphate Bulletin every 3 months to keep fertilizer manufacturers, county agents, vo-ag teachers, extension people and growers up-to-date on the latest developments in magnesium, potash and sulphur fertilization."



"You can see we make good use of your Sul-Po-Mag mailers and envelope stuffers, Walton. We send them out with our monthly billings. The extra sales we've gotten has really been gratifying. Speaking of sales . . . let's drop in on one of our dealers."



Mr. B. A. Barnes, Jr., manager of the B. A. Barnes Cotton Company said, "We've had folks come in and ask for Farmers brand fertilizer because they know it contains Sul-Po-Mag. Many of our customers specify Sul-Po-Mag by name. It gives folks peace-of-mind knowing they're protected against magnesium deficiency."



"I'm glad to see you're taking advantage of our imprinting service. Growers seeing your company's name on this full-color wall chart will think of you as an expert in magnesium fertilization. Also, imprinting helps tie in your SPM materials with your total advertising effort."



"The Sul-Po-Mag program has paid off for us where it really counts, Walton . . . in increased fertilizer sales. By putting Sul-Po-Mag in our fertilizers, such as our "Golden Gem" and "Victory" tobacco grades, we're established as being up on the needs of the growers. We're sold on the SPM program."

83-59

AGRICULTURAL CHEMICALS DIVISION

**INTERNATIONAL MINERALS & CHEMICAL CORPORATION**

Administrative Center: Skokie, Illinois

# What's New?

Additional information is available about new products, new services, and literature described in this department. Circle the numbers of items on which you desire more information, fill in your name, your job title, your company's name and address on the card. Then clip it out of the page and mail. No postage is necessary.

## No. 9168—Chain Mill

A chain mill featuring heavy coil flexible link chain and solid heat treated steel bar ends has been announced by Fertilizer Engineering & Equipment Co., Inc. Adapted from the standard mill, the solid bar ends and special interval cleaning chains are said to reduce chain replacements to a minimum and minimize build-up of material. Unit comes complete with coupling for direct drive. Literature is available. For further details, check No. 9168 on the coupon and mail.

## No. 9169—Bag Sealing Device

Crown Zellerbach Corp. announces the development of a new sleeve—the Crown Cuffed Tuck-In-Sleeve—designed to assure tight, durable sealing of multiwall pasted valve bags. The cuffed TIS for flush cut or stepped-end pasted valve bags is turned back at the insert end of the sleeve to provide a double-thickness (or cuff) approximately 1½ in. wide. The cuff plus a band of adhesive assures a flat, securely-held, sift-proof closure, the company says. The unit can be tucked deeper into the critical valve area, the company says, assuring snug seating of the sleeve-end into the cuff pocket well past the glue line. For more information, check No. 9169 on the coupon and mail.

## No. 9171—All-Purpose Mixer

Kol, Inc., announces a mixer designed to mix everything from coarse aggregate concrete to thin slurry mixes. Called the "Mixel Model 60C," the unit features a tilting, removable 5 gal. mixing pail and paddle. The pail can be adjusted to four angular positions to produce a wide range of agitation for any mixable material. Two mixing paddles come with the unit, each designed to produce maximum horizontal and vertical circulation for fast and complete mixing of most materials, the company says. The unit is powered with a ¼ h.p. motor that weighs 39 lb., needs no fastening down and needs only 2 sq. ft. of space to operate. For more information, check No. 9171 on the coupon and mail.

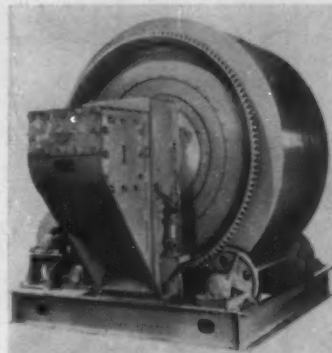
## No. 9175—Catalog Guide

A catalog guide of equipment for the process industries has been released by Allis-Chalmers Manufacturing Co. Included in the guide are descriptions of compressors, vacuum, centrifugal, axial flow and turbine pumps, and valves for fluid flow; crushers and grinding and roller mills for disintegration, mixing and agglomeration; vibrating screens for dry separation; blade mills, pool washing screens and log washers for liquid

separation; kilns, dryers, slakers, pelletizers, coolers and liquid heaters for heat transfer. The guide also covers electrical equipment for the complete process plant, electronic metal detectors, water conditioning equipment, chemicals and service, as well as car shakers, lift trucks and tractors. Copies can be obtained by checking No. 9175 on the coupon and mailing.

## No. 9170—Remote-Controlled Mixer

A remote-controlled, air-cylinder actuated fertilizer mixer, with a capacity up to 2½ tons per batch (50 to 65 tons an hour), has been announced by Sturtevant Mill Co. The unit is specially vented to allow immediate expulsion of steamy corrosive vapors, and specially engineered to eliminate the need of spout and elevator at point of discharge, be-



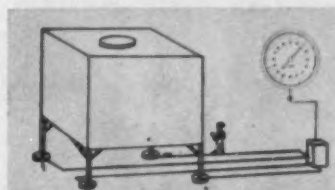
cause the unit feeds directly into a granulator-cooler. Construction is of extra-heavy gauge steel. Some parts, such as the introduction-discharge hopper, are fabricated of stainless steel. The revolving scoops of the cylindrical mixer are fabricated of Corten steel. More details can be secured by checking No. 9170 on the coupon and mailing to this publication.

## No. 9173—Rotary Paddle Feeder

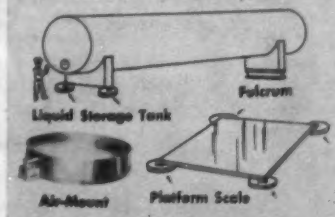
A rotary paddle feeder, designed to assure even, uninterrupted flow of non-flushy ground and small-size granular materials by eliminating "pile-up" or packing, is the subject of a product data sheet released by Richardson Scale Co. The two-page sheet contains information on special features of the feeder. It is illustrated with photographs and isometric drawing and gives complete specifications on the two sizes available. For copies, check No. 9173 on the coupon and mail.

## No. 9174—Weighing System

The Weber Air-Mount Weighing System for weighing the contents of bins, tanks, truck tanks, conveyor



Storage Tank or Bin for Liquids or Solids



Liquid Storage Tank  
Air-Mount Platform Scale

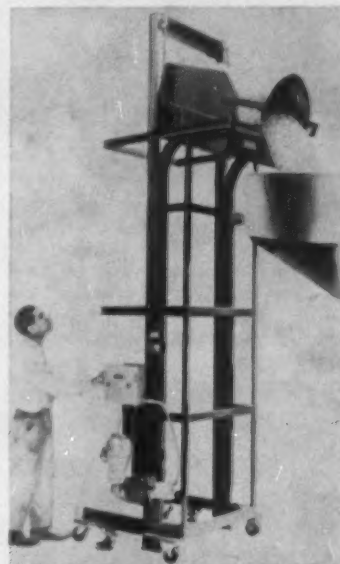
from 0-300 lb. to 0-200,000 lb., announced the Weber Air-Weigh Co. The units have a repeatable accuracy of better than 1/10 of 1%, the company says. The system is operated by a small load-cell placed under each leg of a tank, bin, conveyor section, or platform. Linear pneumatic pressure is automatically controlled in each load-cell and produces a pneumatic signal on a meter, which may be located remotely. Feature of the system is the saving in installation costs, the company says. For details, check No. 9174 on the coupon and mail.

## No. 9178—Bag Filler Attachments

Kraft Bag Corp., sales agent for the Kraftpacker automatic open mouth bag filling machine, announces the development of two attachments—one to add and mix a desired amount of regular or pulverized insecticide or herbicide to each bag of fertilizer as it is filled, and the other to add liquid insecticide or herbicide to fertilizer. The amounts of either type can be controlled according to the requirements of the packager. Further details can be obtained by checking No. 9178 on the coupon and mailing.

## No. 9172—Drum Dumper

A device for lifting and dumping drums has been announced by Conveyors and Dumpers, Inc. The unit is designed for low-cost batch loading of mixers, blenders, kettles, tanks, bins and similar equipment, the company says. Called the "Cesco Jr.



Model DU," the conveyor lifts and dumps a variety of standard size drums. It can also be adapted to lift and discharge bags. The unit is available in capacities to 400 lb. and dumping heights to 12 ft. Models are stationary or portable. Variations can be designed for other heights and capacities, the company says. For details, check No. 9172 on the coupon and mail.

## No. 9176—Agricultural Emulsifiers

An emulsifier pair has been announced by Stepan Chemical Co. Called "Toximul R" and "Toximul S," the pair will emulsify all of the pesticide types such as weed killers and chlorinated and phosphate insecticides, the company says. According to company literature, the pair is cited particularly for emulsification of chlorinated toxicants in heavy aromatic solvents, 2,4-D and 2,4,5-T, esters, parathion, methyl parathion and phosdrin. Accelerated storage tests have shown that the pair are stable

### Send me information on the items marked:

- ☐ No. 9168—Chain Mill  
☐ No. 9169—Bag Sealing Device  
☐ No. 9170—Remote-Controlled Mixer  
☐ No. 9171—All-Purpose Mixer  
☐ No. 9172—Drum Dumper  
☐ No. 9173—Rotary Paddle Feeder  
☐ No. 9174—Weighing System

- ☐ No. 9175—Catalog Guide  
☐ No. 9176—Agricultural Emulsifiers  
☐ No. 9177—Conveyor Belt  
☐ No. 9178—Bag Filler Attachments  
☐ No. 9179—Reference Table  
☐ No. 9181—Technical Bulletin  
☐ No. 9182—Formule Capsule  
☐ No. 9187—Gear Reducers

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even in the most reactive systems, the company says. Another emulsifier development announced by the company is "Toximul LF," a universal emulsifier for soil insecticides and other toxicants in most liquid fertilizers. For details, check No. 9176 on coupon and mail.

### No. 9177—Conveyor Belt

A heavy duty conveyor belt for 45° idlers has been announced by the Manhattan Rubber Division of Raybestos-Manhattan, Inc. According to the company, a conveyor belt has much greater hauling capacity with 45° idlers than with 20° idlers. The belt is doubly compensated so that the outer ply stretches as the inner ply contracts under both lateral and longitudinal flexing, and even on reverse bends, the company says. More complete details can be obtained by checking No. 9177 on the coupon and mailing.

### No. 9179—Reference Table

A wallet-sized reference table for converting the bag-per-minute rate of filled multiwall bags to tons-per-hour is now available from St. Regis Paper Co. The table was designed



#### CONVERSION TABLE

##### Bags per Minute—Tons per Hour

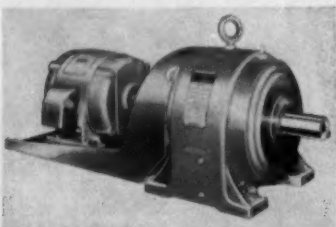
Bagging Rate	TONS PER HOUR		
PER MIN.	100 LB. BAGS	80 LB. BAGS	50 LB. BAGS
1	3	2.4	1.5
2	6	4.8	3
3	9	7.2	4.5
4	12	9.6	6
5	15	12	7.5
6	18	14.4	9.0
7	21	16.8	10.5
8	24	19.2	12.0
9	27	21.6	13.5
10	30	24	15.0

(OVER)

by the company's bag division as a ready guide for production, materials handling, purchasing, research and engineering planning personnel. It lists the ton-per-hour rate of from 1 to 30 bags a minute, for 100 lb., 80 lb. and 50 lb. bags. For copies of the table, check No. 9179 on the coupon and mail.

### No. 9187—Gear Reducers

A line of standard gear reducers with mounting facilities to accommodate separate, coupling-connected Lima standard NEMA motors of suitable horsepower, speed and electrical characteristics, has been announced by the Lima Electric Motor Co., Inc. The reducers are available for horizontal foot mounted application, in



either double or triple reduction units; double reduction units have a horsepower range of 1 through 125

h.p., with reductions from 230 to 45 rpm. Triple reduction units range from 1 to 50 h.p., with reductions from 37 to 7½ rpm. More information can be secured by checking No. 9187 on the coupon and mailing to this publication.

### No. 9181—Technical Bulletin

A technical bulletin containing information on 663 and 664 Chlorophen in weed killers has been released by Reichhold Chemicals, Inc. Tables and specifications are included. For copies of the bulletin, check No. 9181 on the coupon and mail.

### No. 9182—Formula Capsule

A formula capsule which the company says eliminates manual errors in blending, proportioning and batch-

ing operations by automatically setting correct proportions of chemicals, grains and similar materials, has been announced by Richardson Scale Co. The control is integrated with

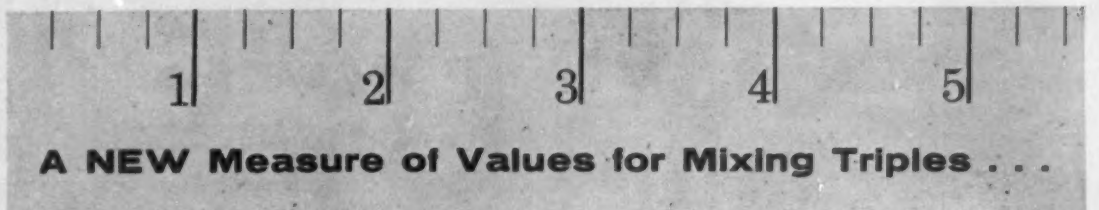


the Richardson "Select-O-Weigh" automatic proportioning panel, and consists of a network of miniature electronic components sealed in a shatter-proof protective cover. The capsule is capable of programming the sequence and weighing of up to 24 solid and/or liquid ingredients in a single formula. For more information, check No. 9182 on the coupon and mail.

### New MCA Secretary

WASHINGTON, D.C. — George E. Best has joined the staff of the Manufacturing Chemists Assn. as staff secretary to MCA's committees on air and water pollution abatement and chemical packaging as well as to handle special assignments.

Mr. Best, who comes to MCA from Allied Chemical Corp., has had 20 years' experience in the chemical industry. He is a graduate of the Massachusetts Institute of Technology.



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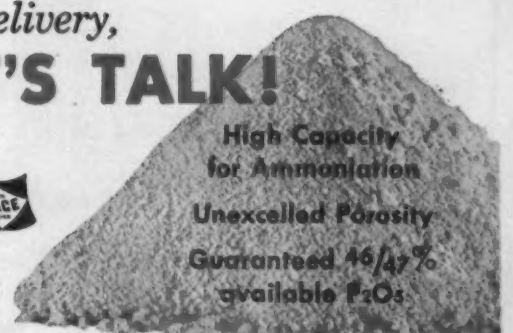
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## SunOlin Appoints Process Plant Engineer

PHILADELPHIA—Appointment of Carl Pfeiffer as process engineer at SunOlin Chemical Co. has been announced by James I. Harper, president.

In his new post Mr. Pfeiffer is engaged in technical economics and process design studies of chemical plants constructed for SunOlin.

Prior to joining SunOlin, Mr. Pfeiffer was a process engineer at Houdry Process Corp. for three years and was employed in a similar capacity at Catalytic Construction Co. for nine years. He was graduated with a bachelor of science degree from Pennsylvania State University in 1946 and received his master's degree the following year.

A jointly-owned affiliate of Sun Oil Co. and Olin Mathieson Chemical Corp. SunOlin has a 73,000 tons-per-year urea plant now under construction at North Claymont, Del. Recently, SunOlin also announced plans to build a \$15 million ethylene plant at the same location.

## Pipe Explosion in Iowa Plant Injures Workmen

BURLINGTON, IOWA—Two fertilizer plant employees were injured in an explosion at Tri-State Fertilizer Co. at West Burlington on Jan. 7. The men were cutting an unused portion of pipe that had been used previously to transport ammonia.

According to reports from the plant, the men had plugged the pipe which exploded from pressure built up when heat applied by an acetylene cutting torch heated the pipe.

Injured were Fritz Wilkerson, West Burlington, and George Yaley, who were taken to a Burlington hospital. They were reported to be in good condition.

## Nitrogen Division Elects Two in Supervisor Posts

NEW YORK — Appointments of Earl McNew and E. L. Copp as supervisor, sales development, and district supervisor, Indiana district, respectively, have been announced by Malcolm E. Hunter, vice president in charge of sales for Allied Chemical's Nitrogen Division.

Mr. McNew joined the company in 1953 and prior to his promotion was

district supervisor, Indiana district.

Mr. Copp has been a sales representative for Nitrogen Division. He joined the company in 1955 and holds a bachelor of science degree in animal husbandry from Ohio State University.

Mr. McNew, a native of Holton, Ind., is a graduate of Purdue University from which he received a master's degree as well as a bachelor of science degree in agriculture. He belongs to the American Society of Agronomy and the American Management Assn.

## Hercules Entomologist Victim of Heart Attack

WILMINGTON, DEL.—The death of Emilio Viale, entomologist and head of Hercules Powder Company's agricultural chemicals division's field development work, has been reported by the company. Dr. Viale died unexpectedly in Wilmington Wednesday, Dec. 23, of a heart attack.

Dr. Viale, 38, had been with Hercules for the past six years, and from 1953 to 1958 was assigned to Brazil. He was a graduate of La Molina Agricultural College, Lima, Peru, where he received a B.S. degree, and was awarded a Ph.D. degree in entomology by Kansas State University in 1950.

From 1950 to 1953, Dr. Viale worked in Costa Rica with the Inter-American Institute of Agricultural Sciences.

## Liquid Fertilizer Unit

HIAWATHA, KAN.—Organization of the Haverkamp Fertilizer Service, Inc. here has been accomplished with Norbert Haverkamp as manager. The new firm will manufacture liquid fertilizer solutions.

The plant will be of latest design, and will include facilities for testing soil samples by users in the area, Mr. Haverkamp said.

## DIRECTOR NAMED

NIAGARA FALLS, N.Y.—The board of directors of Hooker Chemical Corp., at a regular meeting held Dec. 16, elected Hal A. Kroeger, of North Tarrytown, N.Y., a director of the corporation, R. Lindley Murray, board chairman, and Thomas E. Moffitt, president, announced. Mr. Kroeger will fill the vacancy created by the resignation of J. Clarke Cassidy who was president of the former Niagara Alkali Co. now merged into Hooker.

## Monsanto Starts Up First Plant to Be Computer Controlled

LULING, LA.—The first computer-controlled chemical plant in the U.S. has begun start-up operations here, Monsanto Chemical Co. has announced.

The plant, which manufactures ammonia, is well into its testing period. J. L. Christian of St. Louis, a Monsanto vice president, said that so far performance was up to expectations. An RW-300 digital control computer, manufactured by the Ramo-Wooldridge division of Thompson-Ramo-Wooldridge, Inc., is the only computer involved.

"To the best of our knowledge," Mr. Christian said, "this is the first chemical plant in the U.S. to use direct, on-line computer control of any overall chemical process."

By use of the computer Monsanto says it expects to achieve maximum productivity from its plant investment at minimum operating cost. The computer achieves this by continually monitoring the process conditions, making numerous calculations, and automatically adjusting the controls for optimum results.

Monsanto originally announced this project in December, 1958.

## Washington Firm Leases New Warehouse Area

PASCO, WASH.—The leasing of approximately 44,000 square feet in the 375-acre Pasco Port district's industrial and warehouse depot has been completed here by Van Waters & Rogers, Inc.

The firm's fertilizer department manager, Jack Johnston, explains that the leased space will be initially used for distributing Northwest brand fertilizer.

Dave Palodichuk, for five years with Van Waters & Rogers at Portland, was moved to Pasco to become superintendent of the acre-size warehouse space.

"We are pleased to add Pasco to our cities with Van Waters & Rogers warehouses," Mr. Johnston said. "We have made this move to improve the service to our many customers in the area. Northwest brand fertilizer has been sold throughout the area by local farm supply stores with excellent results."

## Spencer Names H. A. French Advertising Manager

KANSAS CITY, MO.—Spencer Chemical Co. has announced the promotion of Herbert A. French as advertising manager for agricultural chemicals.



Herbert A. French

In his new post, Mr. French will supervise all advertising activities for Spencer agricultural products, including "Spen-Amm" anhydrous ammonia, "Spensol Green" nitrogen solutions, "Mr. N" ammonium nitrate fertilizer, Spencer urea, and "Ura-Green" and "Ana-Green" nitrogen solutions. He will report to M. H. Straight, director of advertising.

Following graduation from the school of journalism at the University of Missouri, Mr. French did editorial work for the Jefferson City "Post-Tribune" and Kansas City "Star." Later he served as director of advertising and public relations for the American Royal and was employed by Beaumont & Holman advertising agency just prior to joining Spencer. He is managing editor of "Today's Fertilizer Dealer," the company's quarterly trade magazine for fertilizer dealers.

## New Ammonia Plant Controlled by Computer

LULING, LA.—The first computer-controlled chemical plant in the U.S. has begun start-up operations at Luling, La., it was announced by Monsanto Chemical Co. The ammonia plant is well into its testing period. J. L. Christian of St. Louis, a Monsanto vice president, said that so far, performance was up to expectations. An RW-300 digital control computer, manufactured by the Ramo-Wooldridge division of Thompson-Ramo-Wooldridge, Inc., is the only computer involved.

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Monsanto originally announced this project in December, 1958.

## FERTILIZER NEEDED

CARACAS, VENEZUELA—Official estimates of the Venezuelan Petrochemical Institute indicate that the country needs 40,000 tons fertilizer a year, of which only 25,000 tons are available from present manufacturing facilities.

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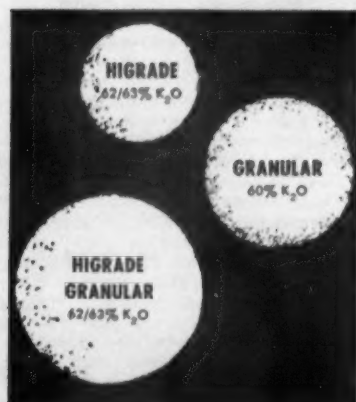
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# PRODUCTION

## Man of the Month



**RECEIVES PLAQUE**—William E. Mason, left, retiring plant superintendent of GLF unit, receives plaque from Thomas Millman, retired research director and former division manager.

### GLF Plant Manager Earns Fine Record In 32-Year Stint

**A** THIRD OF A CENTURY of experience in the agricultural chemical production business places William E. Mason, recently-retired superintendent of the North Collins, New York, plant of Cooperative GLF in a somewhat unusual position. His outstanding work in this position makes him a lively candidate for "Production Man of the Month."

Mr. Mason has always believed that safety in the plant has a direct bearing on the over-all excellence of operations; that it contributes not only to better working conditions, but also to improved output and reduced costs of production.

According to a report from GLF concerning his activities, Mr. Mason has always been definite in his attitude towards safety. "Each month," a spokesman reports, "he has held a meeting with his men at which time he presents a prepared talk after studying from several sources of safety information. At all times, whenever in the plant, he instills safety-mindedness in his men. Mr. Mason's retirement really started on July 1, and taking his place is Paul Geiger who has worked with some years with Mr. Mason, gaining the attitude toward safety which Mr. Mason so fervently worked on."

"At the end of October, the GLF Soil Building fertilizer plant at North Collins completed eleven years and seven months without a lost time accident. The plant produces approximately 12,000 tons of mixed fertilizer annually and acts as a wholesale point for pesticides for the Eden Valley area in Western New York State. The employees average fifteen in number."

"GLF sets up an annual safety program supplying each plant with a safety talk for each month, a slogan for the month, weekly posters, and, in addition to reporting in a national safety contest, we have a safety contest within our own system."

"Some of the requirements for our safety contest include a safety meeting once a month, a monthly inspection sheet, a neat bulletin board upon which posters are to be placed, and, of course, written reports on the safety activities. The success of such a program lies with the attitude of all employees from the plant superintendent on down. Mr. Mason's plant has not only followed our suggestions, but has actively looked beyond our requirements to see that all employees are continually reminded of good safety practices."

"The nearest record to Mr. Mason's North Collins plant is our fertilizer

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**"We are saving \$7.10 per thousand with Bemis Extensibles, a 5½% reduction in our bag costs."**

**"Our savings in cost have been about \$7.00 per thousand. We have had much less breakage than we previously had. In addition, our employees at the plant say that extensible bags are much easier handled at the scales and much easier to sew."**

**"These extensible bags are the best paper bags we have ever used. As far as I am concerned, we won't use anything else."**

**"We haven't had a serious complaint since we switched to your 'stretch' bag."**

**"We broke only two bags in two weeks. We don't want anything else."**

Bemis pioneered extensible multiwalls. We have had longer experience with them than any other bag maker. You can profit by that experience. Get in touch with your Bemis Man.

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plant at Bridgehampton, Long Island. They have run seven years and five months without a lost time accident. This plant, however, is a small plant which generally employs about six people, producing about 5,000 tons of mixed fertilizer and it is generally closed down for a period of four months out of the year. The superintendent's name is Fred Markert.

"One other plant worth mentioning in regard to a safety record is our Yardville, New Jersey, operation. Here, Allan Hoxie, as superintendent, has accumulated four years and five months without a lost time accident. The average number of employees in this case is sixteen with a total mixed fertilizer tonnage of about 24,000 tons."

Production superintendents throughout the trade extend to Mr. Mason their congratulations upon his retirement, and certainly upon his enviable record of maintaining good order in his manufacturing plant.

### New Assignments Made By Witco Chemical Co.



S. D. Shaw H. B. Seligman J. Harrison

NEW YORK—Three changes in the management of Witco's organic chemicals division have been announced by Max Minnig, company president.

The new divisional assignments, now in effect, are: Harold B. Seligman as vice president and general manager; Jerome Harrison as vice president and director of marketing; and Stanley D. Shaw as midwestern sales manager.

Mr. Seligman, formerly financial and administrative vice president of the company, has been associated with Witco and its affiliate, Continental Carbon Co., since 1931.

Mr. Harrison, formerly vice president in charge of midwestern sales for the organics division, joined Witco in 1925. In his new assignment, he heads all divisional sales activities.

Mr. Shaw, formerly Mr. Harrison's assistant with the title of assistant midwestern sales manager for the division, joined Witco in 1941.

### Vulcan Containers Creates New Tech Service Post

BELLWOOD, ILL. — Robert W. Hofmann has been named to the newly created post of technical service representative at Vulcan Containers, Inc., 43-year-old steel pail and drum manufacturer, it was announced by Vern I. McCarthy, Jr., president.

In his new position, Mr. Hofmann's duties will include liaison between customers, field sales representatives and plant production, Mr. McCarthy said. In addition, Mr. Hofmann's experience in graphic arts will be useful in advising metal container users on new color and design possibilities now available.

Mr. Hofmann will also be responsible for counseling in the use of Hi-bake protective interior linings in steel containers. According to the announcement, the new post was created in response to the increasing complexity of container usage.



Robert W. Hofmann

### Named to New Post At Witco Chemical Co.

NEW YORK—The promotion of A. M. Eggeman to director of purchases for Witco Chemical Co., Inc., has been announced by Max Minnig, company president.



A. M. Eggeman

He replaces Michael D. MacBurney, who was recently appointed to general manager of Witco's pioneer products division. Previous to his promotion, Mr. Eggeman was assistant director of purchases. His experience before that includes 13 years with Rexall Drug Co.

He is a graduate of Washington University, second vice-chairman of

the Chemical Buyers Group of the National Assn. of Purchasing Agents, and a member of the New York Purchasing Agents Assn.

Witco Chemical Co., Inc., produces and markets a wide variety of chemicals for industrial and specialty uses.

### LAB TO EXPAND

FALLS CHURCH, VA. — Hazleton Laboratories, independent biological research firm, has just completed construction of a new building at its headquarters in Falls Church, Va. The new building, the first of several scheduled in a long-range expansion program, will add 10,000 square feet of research facilities for studies on the effects of chemicals on biological systems. Construction on another 12,000-square-foot building is scheduled for next spring. While designed for eventual conversion into a research laboratory, this will serve as a new administration building.

### Warehouse Site Chosen

NEW YORK—Rieke Metal Products Corp., headquartered at Auburn, Ind., will erect a modern one-story air conditioned regional office and warehouse building on a large tract of land recently acquired in Linden, N.J., according to an announcement by Glenn T. Rieke, president. The project, scheduled for completion early next spring, is the initial eastern warehouse operation for Rieke.

### STILL ON THE JOB

TALLAHASSEE, FLA. — Nathan Mayo, Florida commissioner of agriculture, observed his 83rd birthday recently, by working a full day at his desk here. Mr. Mayo has been commissioner for the past 36 years. He attributes his longevity to "eating Florida eggs and drinking Florida orange and grapefruit juice."

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# PRODUCTION

## EDITION

### Editorial

## Production Outlook for 1960 Appears Fair With Many 'Ifs' Hanging Over Horizon

**P**ROSPECTS FOR the fertilizer and pesticide trades for the remainder of 1960 appear to be reasonably bright so far as anyone can see at this point. Spokesmen for various segments of the industries have pointed out that the most potent factors in this year's production figures will include farm income levels, possible changes in the farm program to be made by Congress, and of course that most unpredictable factor, the weather in spring.

Thus, the manufacturers of farm chemical products must regulate their volume of output in keeping with sales which in turn are affected by these outside factors. It's always a difficult guessing game.

The election year of 1960 may turn out to be particularly confusing since, historically, election years see strange things happen. Almost every important decision of government officials on all levels has overtones of political angles. This will be most certainly true in 1960 when it comes to arriving at farm legislation.

There are still other things to consider for 1960. Some of these were outlined by Croplife's Washington correspondent, John Clipperly, who observed in a wire last week: "Flowing tides of optimistic reports from all shades of economic egg-heads are indeed a heady New Year wine for the chemical industry, but beware of the Ides of later months."

"As for example, the prospect of a nationwide railroad strike which could develop in late spring. The steel strike has been settled and such settle-

ment may provide a comfort to all and sundry, but a settlement of a rail strike on the same terms may mean higher freight rates.

"One can see the steel strike settlement only as a deferred increase in the price of steel—possibly 18 months away. But in the case of the carriers, it could mean a more dangerous and expensive tie-up of facilities than the steel strike meant to other industries.

"This admittedly is a sad view of the outlook, but one which the chemical industries must face among other unhappy aspects in their particular segment of the economy.

"Perhaps the administration may be able to wangle a rail strike settlement in advance—without any inflationary effects. But be on guard."

Probably Mr. Clipperly's advice to "be on guard" is sound and worthy of being taken seriously. However, no one is about to push the "panic" button and turn the industry into an uproar. It isn't necessary. Things aren't that bad.

As a matter of fact, there are possibly more areas of cheer than there are of gloom for the 1960 season.

Advancing technology in chemical production enables the manufacturer to cut unit costs per ton of output, and to make a better product at the same time. This is the key to successful operations in the decade just opening up with the advent of 1960. Utilization of manufacturing technology already available, plus additional methods and means yet to be discovered, is the thing.

sible present-day efficiencies. Would this mean that the fertilizer industry should go back to its original scavenger status and limit its output to the simplest type of low-analysis goods? Would it mean hiring hordes of workmen to perform tasks now handled quickly and cheaply by conveyor belts and power shovels? And making sure that no mixed goods should carry more than a bare minimum of plant food, lest a higher analysis should grow too much corn or cotton or other crop?

The day is not too far off when farm surpluses will taper off and the present demand for fertilizer and pesticide production will double and triple. The companies best suited to take advantage of this stepped-up business will of course be those who prepare now, in the early days of the 60's.

Drifting back into inefficiency because production seems momentarily to have moved about one step ahead of present need, is no way to cope with the situation. The real solution lies in improved technology, lower production costs, improvement in product and a resulting increase in the margin of profit.

## "Back to Oxcart" Philosophy Seen in New Doctrine of Inefficiency for Industry

**A** SIMILAR THEME was voiced by W. R. Allstetter, vice president of the National Plant Food Institute, in a talk before the Iowa Fertilizer Industry Representatives Conference at Ames a few days ago.

His remarks, though slanted to the question of efficiency on the farm, might well be applied to the manufacturing portion of the trade.

There are those, he said, who advocate a "doctrine of inefficiency" on the farm as a possible solution to the surplus problem. One of the strangest twists of thinking is seen in the thought that our agricultural ills might be cured by reversing or stopping entirely, the technological revolution on the farm.

Carried to its logical conclusion, such a philosophy would have the American farmer discard his tractor, his combine, his modern soil fertilization and insect control techniques, and return perhaps to the wooden plow pulled by a team of plodding oxen.

By the same token, this notion that agriculture is "too efficient" is carried over into the area of companies producing materials that make pos-



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### PRODUCTION EDITION



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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop area) basis with a mailing schedule which covers consecutively, one each week, three geographic regions (South, Midwest and West) of the U.S. On the fourth week, production personnel in fertilizer manufacturing and pesticide formulating plants throughout the U.S. are covered in depth. To those not eligible for this controlled distribution, Croplife's subscription rate is \$5 for one year (\$6 a year outside the U.S.). Single copy price 25¢.

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Donald Neth, Managing Editor

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# Industry Meetings

Jan. 19-21—Twelfth Annual California Weed Conference, Sacramento, Cal.

Jan. 20-21—Third Annual Arizona Fertilizer Conference, University of Arizona campus, Tucson, Ariz.

Jan. 20-21—Northwest Agricultural Chemical Industry Conference, Benson Hotel, Portland, Ore. C. O. Barnard, executive secretary.

Jan. 20-22—Thirteenth annual Southern Weed Conference, Buena Vista Hotel, Biloxi, Miss.

Jan. 25—Wisconsin Lime and Fertilizer Day, University of Wisconsin Campus, Madison, Wis.

Jan. 25-26—Second annual Agricultural Pesticide Conference, Purdue University, Lafayette, Ind.

Jan. 27-29—Symposium on Chemistry of Phosphate-Sol Reactions, Muscle Shoals, Ala.

Jan. 28-29—Annual meeting of the Colorado Agricultural Chemicals Assn., Cosmopolitan Hotel, Denver, Colo.

Feb. 3-4—Illinois annual fertilizer industry conference, University of Illinois, Urbana.

Feb. 4—New Pesticide Review for Northern California, Recreation Hall, University of California, Davis. Sponsored by Western Agricultural Chemicals Assn. and Entomology Club of Northern California.

Feb. 4—Executive Committee Meeting, Fertilizer Section, National Safety Council, New Florida Hotel, Lakeland, Fla.

Feb. 9-10—Utah Fertilizer Industry Conferences: Feb. 9, Provo; Feb. 10, Ogden.

Feb. 9-11—Southern Regional Liquid Fertilizer Conference, Rock Eagle 4-H Club Center, Eatonton, Ga.

Feb. 9-11—Seventh annual Agricultural Chemicals Conference, Texas Technological College, Lubbock, Texas.

## BRUSH AND WEED KILLERS

KILL BRUSH of low cost with amazing R-H BRUSH RHAP. Will not injure grasses, grains, or potatoes. For free information write Reaser-Hill Corporation, Box 36CL, Jacksonville, Ariz.

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REMEMBER TO ORDER

# CHASE BAGS

There's None Better!

## CALENDAR FOR 1959-60

JANUARY							FEBRUARY							MARCH							APRIL						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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10	11	12	13	14	15	16	7	8	9	10	11	12	13	14	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	14	15	16	17	18	19	20	21	11	12	13	14	15	16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	21	22	23	24	25	26	27	28	18	19	20	21	22	23	24	25	26	27	28	29	30
31							28	29							25	26	27	28	29	30	31						

MAY							JUNE							JULY							AUGUST						
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8	9	10	11	12	13	14	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
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SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER						
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25	26	27	28	29	30		23	24	25	26	27	28	29	30	31												

## E. Rauh & Sons Names Four New Officers

INDIANAPOLIS, IND. — S. J. Martenet, president of E. Rauh & Sons Fertilizer Co., with plants at Indianapolis and Plymouth, Ind. and Sylvania, Ohio, has announced the election of John J. Weldon as chairman of the board of directors, and the election of three additional vice presidents:

William F. Farley, formerly president of Smith Agricultural Chemical Co., to serve in an administrative and staff capacity.

Carl R. Sparks, formerly vice president and general manager of Buhner Fertilizer Co., to be in charge of agricultural fertilizer sales.

Robert C. Liebetrau, production head since 1955, to be in charge of all manufacturing activities.

## Otto Haas, 87, Dies

PHILADELPHIA—Otto Haas, 87, founder of the Rohm & Haas Co., died Jan. 2 at his home near here. Mr. Haas headed the firm for fifty years after founding it in 1909.

Mr. Haas was a native of Germany, and came to the U.S. in 1902. The Rohm & Haas firm manufactures a number of pesticidal chemical products and has plants at Philadelphia, Bristol, Houston and Knoxville.

## SALES IN KENTUCKY

LEXINGTON, KY. — Fertilizer sales in Kentucky during October, 1959, amounted to 27,204 tons or 8,255 tons less than during the same month the previous year, reported the Department of Feed & Fertilizer, Kentucky Experiment Station.

# TRAINING

Continued from page 2

slippery spots.

4. Strains.

5. Injured heels.

6. Mashing fingers between truck handle and car door.

7. Running into other trucks.

8. Falls.

SAFETY INSTRUCTIONS — 1. Check car floor or truck body for holes, weak spots and slippery spots.

2. Get help in handling heavy board—see that board is properly placed and anchored.

3. Remove doubtful objects from area. Clean up wet or slippery spots.

4. Move feet with body instead of twisting body.

5. Have bags balanced on truck which will eliminate strain in pushing and breaking down truck.

6. Get help pushing upgrade.

7. Carts should be pushed—not pulled.

8. Give way to loaded truck.

9. Look behind before backing up.

10. Hit run-way in middle when entering cars or trucks.

11. Watch where you are going.

12. Watch for other truckers coming out of cars.

13. Lift with arms and legs—not back. Never twist body with a load—shift feet.

14. Always use two stackers for 200 lb. bags.

15. Trucker should hold to his truck while being unloaded to prevent shifting, causing stackers to strain or mash feet.

16. Do not step from truck to dock or vice versa while truck is in motion.

# Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge \$2.25. Situations wanted, 10¢ a word; \$1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of \$11 per column inch.

All Want Ads cash with order.

## HELP WANTED

EXPERIENCED, MATURE SALESMAN for national manufacturers, agricultural chemicals. Sales at distributor dealer levels, southern California and southern Arizona. Complete resume, age, education, experience and availability first letter. Address Ad No. 5494, Croplife, Minneapolis 46, Minn.

DISTRIBUTORS AND DEALERS OF THE fastest growing cattle, sheep and dairy feed in the United States are seeking salesmen and managerial personnel. Here is an opportunity to grow with a young and dynamic industry. At proven cost savings to farmers, cattle, for instance, in many states achieved cheaper gains faster and earlier with these scientific advanced methods on feeding protein supplement free choice. If you are interested to work with independent and successful distributors and dealers, with a product unequalled and of great benefit to the farmers, write to Liquid Feed Association, Ad No. 5499, Croplife, Minneapolis 46, Minn.

## Executive Dies

MUNCY, PA.—Ralph C. Feigles, 50, works manager, Sprout, Waldron & Co., Inc., died suddenly recently.

Mr. Feigles joined Sprout-Waldron in 1928, soon after graduation from Muncy High School. He worked his way through a series of increasing responsibilities, and in 1938 was appointed works manager. In this capacity, he functioned as a member of the Sprout-Waldron executive committee. Mr. Feigles served as an active member of the West Branch Manufacturers Association, and the American Foundrymen's Association.

## Bemis Transfers T. Gray

ST. LOUIS, MO.—H. V. Howes, director of sales for Bemis Bro. Bag Co., has announced the transfer of T. I. B. Gray from the general sales department to the company's packaging service department, Minneapolis, effective Jan. 1. Mr. Gray, who has been on special assignment in development and promotion of the new Bemis explosives bag, will join the sales department of the packaging machinery unit.

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DO YOU BUY ANHYDROUS AMMONIA OR NITROGEN SOLUTIONS?

*Meet  
Ray  
Funk*



Ray Funk is one of the men who have helped build Standard Oil's reputation for delivering  $\text{NH}_3$  and Nitrogen Solutions on time and when promised. Working through Standard's traffic department shipments are expedited and followed closely to assure delivery. Ray's knowledge of such things as when the tank car will leave the area and the number of lines handling are what assure you that the car you've ordered will be coming onto your siding when it is due.

Ray keeps a running record of tank cars available, and he knows accurately the schedule of truck shipments. He is thus able to help customers estimate the delivery time on  $\text{NH}_3$  and Nitrogen Solutions shipped by truck.

You don't learn this job overnight. Certainly Ray didn't. He's been in the Standard Oil sales department for 22 years. Thirteen of these years have been in customer service work. Many's the time Ray has been on the telephone at home after midnight making sure someone's shipment went through on time.

Is this the attention you would like your purchases of Anhydrous Ammonia and Nitrogen Solutions to receive? Well, it's the kind of care your order gets at Standard. Get all of the facts from your Standard Oil representative. Or write, Standard Oil Company (Indiana), 910 South Michigan Avenue, Chicago 80, Ill.

*You expect more from*



*and you get it!*



